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## ORIGINAL COMMUNICATIONS.

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### THE PATHOLOGY OF PHARYNGOMYCOSIS, WITH LANTERN SLIDE ILLUSTRATION.\*

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The literature on the subject of pharyngomycosis as a true mycosis, due to some form of fungi, is well known, and this paper will not be burdened with long quotations, the reader being referred to the original literature. The total number of cases now reported has become so large as to necessitate the disuse of the term "a rare disease."

Prior to 1886 the subject was treated by Tilley, Gruening and J. Solis-Cohen. From 1886 to 1898 Toeplitz' article gives a complete review of all cases reported and reference to his article is all that is necessary, only cases illustrating the various views of different writers or showing peculiar characteristics being quoted. Later important clinical contributions were given by Van der Poel, Newcomb, Knight, Hemenway, Ingals, Dunn and Campbell. Jonathan Wright and Heryng have considered the subject pathologically and have furnished specimens.

A number of mycotic affections of the aural and pharyngeal cavities have been studied. Morrell Mackenzie describes mycosis in his text-book as a follicular exudative pharyngitis, and Stoerk as seborrhea of the follicular glands. A careful survey of the literature shows that individual writers have in almost every case set forth some different idea as to the etiology and pathology, which only proves that there is yet uncertainty as to these points. Lincoln, in

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his report of cases, believes it to be due to the leptothrix. Sections examined by Wright showed the presence of the leptothrix as well as keratosis. Schmiegelow believes the disease to be due to the leptothrix. Numerous forms of mycosis have been described by various authors. It may be that instead of numerous forms they are separate diseases. Possibly certain diseases similar to this are due to the presence of the leptothrix, but there surely is a disease not dependent upon that organism. In this belief I am in accord with Brown-Kelly's views. As a rule the disease is limited to the pharyngeal and tonsillar structure; however, occasional cases have been reported, one by Wright and one by Dunn, in which the naso-pharynx was involved. This may be due to the peculiar lymphatic and vascular supply in some individuals. Gray reports a case of mycosis of the larynx in which the deposit was on the upper surface of the left arytenoid.

Biesiadeki, of Krakow, believed, on account of the iodine reaction of the removed portion, that amyloid degeneration of the mucous glands occurred. Stoerk found calcareous deposits. Infiltrations, however, are likely to occur associated with degeneration and it is not unlikely that in Stoerk's case this had taken place and the concretion was a secondary formation and not a causal factor. Rokitsansky classified the disease among the atheromata similar to the change occurring in the skin; in fact, a hardening or keratosis. In the majority of cases reported the leptothrix was present, but there were also a number of cases reported in which the leptothrix could not be demonstrated.

Toeplitz believes the disease readily follows tonsillitis and diphtheria. This does not seem to be true in all cases, at least the disease occurs so many years after diphtheria or an attack of tonsillitis as to preclude any etiological relation. Baber and Farre report cases in which the palate and base of the tongue were affected, as well as the tonsils. Labit reports a case in which the condition was present in the nose. Hemenway is not a believer that pharyngomycosis is due to the leptothrix, while Schmiegelow is a firm believer in the leptothrix as an etiological factor. Such men as Klebs classify the leptothrix buccalis with the algæ. The tendency of the disease to recur favors both bacterial infection and a specific inflammatory process. If the disease is due to the leptothrix, it seems reasonable to suppose that there would be some inflammatory action present at the site of infection, yet most writers agree that none exists.

Wright shows from sections examined that the leptothrix grows in the crypts of the lymphoid tissue and also can be demonstrated in the acini of the racemose glands. In the same article he gives practically nothing as to the change of tissue, the entire work being devoted to the bacteria present.

Goodale, of Boston, in his admirable article in the *Annals of Otology, Rhinology and Laryngology*, February, 1900, on the Pathological Histology of Hyperkeratosis Lingualis, describes the tissue change quite similar to that shown in the lantern slides, which supports the theory of Siebenmann and Richardson. He states that the condition resembles very much that of chronic inflammation with secondary alteration of the epithelial cells. This condition, however, as shown by the lantern slides, I believe to resemble more a chronic specific inflammation than a simple chronic inflammation. Some writers recognize the acute and chronic forms of mycosis and while it is altogether probable, I think possibly the various forms described are only different stages of the same pathological alteration.

Siebenmann was the first, I believe, to combat the theory that pharyngomycosis was due to the leptothrix, although his work was originally done on sections of the diseased tissue from the tonsil. From a study of these sections he described the disease as one of keratosis and was afterward supported in his views by Richardson, of Washington, Brown-Kelly, of Glasgow, and Goodale, of Boston.

There seems to be some difference of opinion as to the degree of keratosis and also the degree of subepithelial change. This difference of opinion may be due to the fact that in individual cases examined the pathological alteration was in different stages of progress. While the lantern slides shown differ somewhat in pathological alteration from that described by Siebenmann and others, yet the general theory is the same and I believe the presence of the leptothrix or any bacteria is secondary and not an etiological factor. In a case reported by James P. Tuttle a microscopic examination of the tissue largely confirmed the theory of Siebenmann and is practically the same as shown in the lantern slides, although his sections showed subepithelial myxomatous degeneration instead of hyaline.

Brown-Kelly states, the objects of writing his paper are:

1. To adduce further proof in support of Siebenmann's statement that the disease commonly known as mycosis leptothricia is in reality a keratosis.

2. To prove that this keratosis is more extensive than Siebenmann states and that the name hyperkeratosis lacunaris does not adequately describe the phenomena observed. A less special term, such as keratosis pharyngis, is therefore proposed.

3. To point out that a condition does exist which, may justly be termed mycosis pharyngis leptothricia, but which is quite distinct from the affection at present bearing that name.

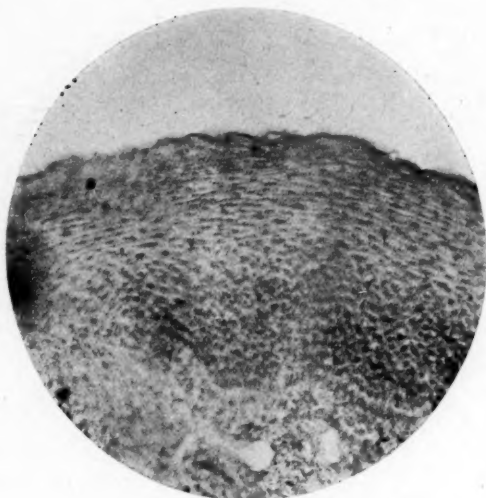
He then describes the frequency of the disease in which he says that almost half of the papers published on this subject are based on the observation of a single case, only in a few instances does the number recorded exceed a half dozen. The author also describes in detail the aspect, site, symptoms, course, etiology, pathology, etc., of the disease. He describes under the head of Course the interesting fact that he has been able to verify the origin of the tufts, described by Siebenmann, of small white submucous spots, and also if left to themselves they eventually disappear. He also observes that whilst leptothrix is usually to be found in lingual and faucial tufts, they are absent in the pharyngeal excrescences. The author describes ten cases which have come under his own observation. These papers were contributed to the *Glasgow Medical Journal* of August, September and October, 1896.

Most authorities have laid the principal stress on finding leptothrix and not attaching so much importance to the condition of the epithelium and submucosa. Heryng found that the majority of the excrescences projected from a flake-like pavement epithelium. The masses were of a yellowish color and finely granular in character, more or less transparent. He differentiates between two kinds of grafts or projections. The superficial or first kind are cup-like and are adherent to the mucous membrane and stand out in strata-like horny epithelium. In the middle the mass was compact and on the sides radiating filamentous projections. The second form consists of wedge-shaped and triangular projections which extend quite deeply into the parenchymatous coats. These forms have a uniform glassy yellow appearance. The masses are larger and entangled with epithelial plates and granular debris. The upper layer consists of finely granular masses, but no leptothrix.

In lantern slide No. 9, in fact nearly all the lantern slides in a general way agree with his description of the tissue, pigment granules being present, the kerato-hyaline disseminating throughout the structure. While kerato-hyaline is normally present in



the section of mucous membrane, it is in a very limited amount and is not so easily demonstrated. Heryng called attention to the fact that the submucous masses resembled very much the pulp of a hair. This is well illustrated in lantern slide No. 9, and is due to the fact, I think, that the papillary layer which has shoved up through the mucous membrane at that point has undergone cornification with some hyaline change. The change in the epithelial cells of course depends somewhat on the variety of epithelium. The pavement epithelium hardens much more readily



than the cylindrical epithelium. The posterior wall of the pharynx contains more pavement epithelium than the lateral walls or tonsillar surface.

Text-books and various authors would lead us to believe that the affection occurs most frequently in young and middle aged females, but I think age and sex have very little influence. The disease is generally unobserved or discovered by accident. Later a hoarseness and tickling sensation may be felt in the throat. Numerous whitish, more or less hard, excrescences appear slowly,

mostly occurring at the base of the tongue, on the tonsils and in the solitary follicles on the posterior pharynx. Very seldom on the aryepiglottic folds, the laryngeal surface of the epiglottis and the mucous membrane of the tonsils. Frequently the disease is associated with dental caries, cutaneous diseases and unhealthy surroundings.

Climatic conditions seem to have considerable effect on this disease. This, of course, in a measure supports the bacterial theory, yet climatic conditions in a great measure control many patholog-



ical alterations by their good or bad effect on the general health, rendering cell resistance greater or lesser, according to the climatic conditions to which the individual is subjected.

General systemic condition does not seem to be such an important factor, as reported cases show robust health as well as asthenic conditions. The disease does not seem to be associated with syphilis or tuberculosis. In the case reported by Gray, of Glasgow; he described the larynx as appearing exactly like that of tuberculosis without any of the clinical symptoms. In Gray's case there seemed to be no other lesion than that of the larynx, which is rather unusual.

From a careful review of the literature of the subject the disease is not uncommon, although I have seen only ten cases. The common site, however, seems to be on the tonsil, or the pharyngeal wall bordering on the tonsil. It is rarely limited to the pharyngeal surface, as was the case from which these sections were made.

The history of the case from which these slides were taken is very brief. A young man in excellent health, twenty-four years of age. His attention was called to his pharynx, as he described it, "by a sensation of dry spots," and on swallowing he said the



back part of his throat felt stiff and seemed to pull. This symptom is possibly explained by the fact that the pharynx was dotted over by some twelve or fifteen of these minute areas and on account of the involvement of the submucosa the membrane was fixed or anchored at each individual nodule which lessened the resiliency of the mucous membrane. There was no pain nor alteration in the voice. His previous history was negative.

As to the import of the leptothrix from an etiological standpoint, I am inclined to the view that its action is secondary, and I think that it is more than likely that the chemical change brought about

by the pathological alteration in the submucosa causes a change in the glandular secretion and forms a soil which is a suitable nidus for the proliferation of certain bacteria. It is true, bacteria may cause this alteration; however, if that was the causal factor in this disease I think that the section instead of showing the primary lesion in the submucosa would show a superficial primary alteration with secondary involvement of the deeper structures.

From the sections illustrated by lantern slides the degenerative change seems to be largely hyaline. The process of degeneration



is controlled by nutrition and why we have hyaline degeneration in one condition and fatty in another can only be explained from the standpoint of chemical pathology. That the tissues and fluids under certain chemical conditions bring about definite pathological changes is governed by the same general laws controlling chemical reaction.

Bacteriologists differ as to the classification of the leptothrix, whether it belongs to the algæ or schizomycetes; it more properly belongs to the blastomycetes.

Bacteria of the throat, found present in diseased conditions may be only associated etiological factors. In mycosis where so many bacteria are found present their import is lessened. The life and growth of the bacteria is largely determined by the character of the secretion. It may be possible that owing to the peculiar chemical change in the tissue requisite to the pathological alteration, as shown in mycosis so-called, the chemistry of the secretion is suitable to the growth of the leptothrix.



While no culture inoculations were taken from this case, yet the specimen was set in formalin and stained specially for the various forms of bacteria. While many bacteria were demonstrated on the surface and entangled in the loosened epithelial debris, yet the subepithelial cells showed no alteration significant of bacterial infection. The rod-shaped leptothrix were not demonstrated, simply the budding form of the yeast fungi of the blastomycetes genus. Laboratory investigation to show the disease-producing power of the leptothrix has given negative results. Michelson inoculated rabbits with pure cultures of leptothrix without effect. Heryng has inoculated the conjunctiva and dorsal skin of rabbits with the lepto-

thrix, but without success. Seibert has, however, succeeded in producing severe suppuration by inoculating the cornea. This is questionable because the leptothrix does not belong to the pus-producing microorganism class. And then the pus might have been due to an accidental infection. Miller has demonstrated the presence of the leptothrix in the tartar on the teeth of Egyptian mummies. It has also been demonstrated in pulmonary gangrene. The sarcinae are found present as well as the oidium albicans, saccharomycetes, leptothrix maxima or bacillus buccalis, the aspergillus fumigatus. The leptothrix buccalis and the bacillus fasciculatus are the fungi usually found in the surface deposits.

From my own bacteriological investigations, some five hundred, in which pathogenic and non-pathogenic bacteria have been found in diseased and healthy mucous membrane surfaces, I am inclined to think that the bacteria present are largely secondary and their causal or etiological relation to disease is controlled by the chemical reaction of the tissue and secretions.

In some of the cases of keratosis reported the presence of the leptothrix has also been demonstrated. In other cases with precisely the same pathological alteration no leptothrix have been found. If the disease is due to any form of bacteria, that bacteria evidently produces no toxins, as is shown by the absence of clinical phenomena. The yeast fungi and mold fungi do not produce toxins which produce systemic poisons. If, then, the disease is due to the leptothrix this would account for the absence of systemic symptoms. From a pathological standpoint the tissue change outside of bacterial infection is so localized and limited as to not produce any systemic effects from ptomain or leukomain poisoning. The reaction of the gland secretion of the mouth does not seem to have any effect on the disease. This is against the bacterial theory, as with one or two exceptions the pathogenic bacteria require an alkaline media, acid secretions retarding their growth or causing death of the germ.

From the standpoint of treatment it is a well-known fact that the local application of various medicinal agents, germicidal and otherwise, have very little therapeutic effect. This may be explained by the fact that from the process of keratosis and subepithelial change the lymphatic channels are closed or destroyed and the solution does not penetrate the tissue.

The fact that several individuals in the same family have developed the disease may be somewhat in favor of the bacterial theory, at the same time the same individuals exposed to similar conditions might bring about the same pathological alteration in tissue, and that if

the disease is infectious and conveyed from one to the other why is it not commonly seen in the nasal or other mucous membranes? I believe that in some way it is particularly related to the lymphatic system, which is as you know rather peculiar in the pharyngeal and tonsillar tissues, and it is a curious fact that this disease is usually limited to these and adjacent structures. The peculiar vascular and lymphatic circulation of these parts is clearly shown by the selective action of certain drugs as belladonna and aconite.

From the slides presented it looks as though whatever the pathologic change may be, that it does begin from below and extend upward. The keratosis of the epithelial structure, whether it be due to some bacterial irritation as the causal factor or whether it be associated with some subepithelial change, at least is dependent upon the subepithelial structure and the degenerative process which takes place, as shown in the section, directly beneath the thickened areas on the epithelial surface seem to affect these nodules, which I think furnishes fairly reasonable grounds for the deduction that the epithelial alteration is dependent upon the subepithelial change. It seems to be somewhat like the specific inflammatory processes where there is cell proliferation, but where nutrition fails and it does not go on to complete organization and in this case goes on to cornification. Some portions of the section show the thickened blood vessel with proliferation of the endothelial lining of the vessel walls. From the symptoms usually described in this disease, a feeling of stiffness in the throat, I believe owing to the fact that the separate nodules are anchored, as it were, to the definite spot, interfere with the elasticity of the membrane, also proves these subepithelial connective tissue changes.

The peculiar fibrous bands, as shown in slide No. 10, is a rather unusual formation extending as it does from the subepithelial structure penetrating and obliterating the basement membrane and extending out directly to the epithelial surface is most likely organized connective tissue papillæ which have pushed up through the epithelial layer and cornified on the surface as it continues along the entire surface of the section and looks like an organized fibrinous exudate. The subepithelial lymphoid structure shows slightly water-soaked cells as would be found where there is a very mild edema. That there is very little inflammatory process is shown by the polymorphous nuclear leucocytes. Many large polymorphous lymphoid cells show chromatin scattered throughout the cells. The tissue also shows many inclusion cells and the cell is filled with chromatin. The subepithelial cells, which seem to bud



or shoot up through the connective tissue, show peculiar nuclear change. Siebenmann describes non-nuclear cells, while I find none resembling the cells described by him except those which are undergoing hyaline change. Those prolongations from below, namely, the papillary budding from the connective tissue structure, is seen in normal histological sections of mucous membrane of the pharynx and upper respiratory and alimentary tracts.

Clarkson in his normal histology says the superficial epithelial cells are for the most part non-nucleated periplasts enclosing a homogeneous substance, keratin, into which the original protoplasm of the cell has been converted. Between the superficial flattened squames, of which there are several layers, and the deepest germinal layer, the cells have an intermediate character. The presence of keratin in this cornified tissue and the cells beneath is not necessarily significant, as it is present in the normal structure and is the basis of horny tissue. No doubt the decomposed keratin has something to do with the peculiar reaction of the tissue to stain, as keratin is a complex substance which, when decomposed, yields leucin and tyrosin. When pathologically altered it would no doubt give a different chemical reaction to stain. Besides the resemblance to chronic specific disease there is also a marked resemblance to the disease known as Paget's disease of the nipple. While to be sure one is a disease involving the skin epithelium and the other a disease involving the mucous membrane epithelium, yet the physiological and histological law controlling these structures is largely the same. The similarity of the surface keratosis, the peculiar subepithelial connective tissue alteration is strikingly similar as compared with carcinoma. It looks as though in one case the epithelial cells grew and penetrated down into the tissue, while in the other the tendency is toward the surface. The card illustration taken from the case quoted by Dr. Coplin, as well as an illustration in Hamilton's Pathology, Vol. ii., page 804, Fig. 500, show the marked similarity in the pathological alteration. This disease also shows a peculiar hyaline degeneration as shown in the sections illustrated by lantern slides. Indeed, some of the cells under higher magnification show that peculiar intercellular change quite similar to that described in Paget's disease by Whickham and Hamilton.

The gentian violet stain brings out the keratohyaline material, as shown in lantern slide No. 9, as a rose-pink color. These masses of keratinized epithelium are really pushed up from below penetrating the basement membrane. In other instances, as shown in lantern slide No. 3, the change has involved the entire epithelial surface as

to denude the papillæ of the connective tissue. The yellowish-white areas are due to hyaline degeneration. The reaction to stain giving the various colors is controlled by the stage of degeneration.

In some of the sections an unusual condition is presented, that of areas of focal necrosis. This may be explained in two ways; it will be noted in the section that the area is almost midway between the basement membrane and the epithelial surface, and must be either due to localized areas of infection followed by liquefaction necrosis or else due to irregularity in the hardening process in which the cell cut off its own nutrition and has undergone liquefaction necrosis.

Hyaline change is also shown in the wall of the blood vessel and in the connective tissue papillæ. In several sections, as in lantern slide No. 11, masses of hyaline degeneration show just beneath the basement membrane and extending deeply into the submucosa. The masses on the surface, which appear at first inspection to be fibrin, I believe to be cornified epithelial cells bearing very much the same relation to the submucosa and adjacent structures as a finger nail does to a finger. It does not react to the stain for fibrin, neither does it show leucocytes entangled in the meshes, in fact, practically no cell infiltration except in one or two areas where there has been hemorrhagic infiltration. In several instances, as is shown in lantern slide No. 11, these fingers of cornified tissue penetrate deeply into the submucosa or rather have their origin, I think, in the submucous connective tissue papillæ or genetic layer of the mucous membrane and the longitudinal sections of such areas look very much like a section of a dead hair bulb.

Lantern slide No. 2 has distinct areas of hemorrhagic infiltration with degeneration, not only involving the submucosa, but extending up through the epithelial surface. The section which shows a broken-down area is due to an old hemorrhage, as it shows distinct pigmentation also the entire absorption of the genetic layer of the columnar epithelium.

The yellow areas of hyaline degeneration are similar to those found in Paget's disease. In lantern slide No. 9, which shows the piled-up epithelium, the epithelial cells which are fairly normal in appearance, seem to spring directly from the genetic layer.

## DESCRIPTION OF LANTERN SLIDES.

Lantern Slide No. 1. Shows connective tissue loops penetrating basement membrane. The submucosa is fairly normal. It shows slight keratization on the surface. Also necrotic areas in the epithelial surface. It is possible that these small areas which show above the basement membrane are oblique sections of these connective tissue papillae.

Lantern Slide No. 2. Higher magnification of same.

Lantern Slide No. 3. Shows projecting connective tissue papillae in which keratinized cells show on the surface, central area degenerated and genetic layer of basement membrane gone.

Lantern Slide No. 4. Shows broken down fibrin and leucocytes piled up on the surface of the hardened epithelium. Some hyaline degeneration in the subepithelial structure, with a distinct break in the mucous membrane. The basement membrane is entirely severed in this section. This is at least not a normal duct, but may be a fragment after the degenerative change.

Lantern Slide No. 5. Low power showing area of degeneration in piled-up epithelial surface. Basement membrane, both layers gone, cornified layer still on the surface, pigmentation as result of hemorrhage.

Lantern Slide No. 6. Same.

Lantern Slide No. 7. Higher magnification of same.

Lantern Slide No. 8. Shows a peculiar hyaline change beginning in the epithelial cell. It is the early stage of the degenerative process and shows in the slide as a peculiar run together appearance. Blood vessel wall with proliferated endothelium in the submucosa. Also degenerative spot in epithelium. Some kerato-hyaline.

Lantern Slide No. 9. Shows piled-up cornified epithelium. Subepithelial structure fairly normal. Keratosis. Basement membrane shows slight change. Blood vessel walls slightly changed.

Lantern Slide No. 10. This section is the same as No. 8, showing apparent fibrous tissue formation, which is keratinized epithelium and extends out over the surface.

Lantern Slide No. 11. Shows section of the same obliquely below the mucous membrane. Also degenerated areas and thickened vessel walls.

Lantern Slide No. 12. Shows another area of that beginning hyaline degeneration of the surface and extending down into the submucosa.

Lantern Slide No. 13. Shows epithelial surface with cornified layer of epithelium; also areas of degeneration in the submucosa directly beneath the piled-up epithelial layer. The genetic layer of the basement membrane is very thin and the connective tissue layer is almost obliterated.

Lantern Slide No. 14. Shows higher magnification of same.

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## ON SOUNDING AND IRRIGATING THE FRONTAL SINUS THROUGH THE NATURAL OPENING.

BY WALTER A. WELLS, M.D., WASHINGTON, D.C.

In the situation of its natural opening the frontal sinus has undoubtedly a distinct advantage over the other accessory sinuses of the nose, both on account of the thoroughness by which drainage is thus accomplished and also for the greater facility with which sounds or canulas may be introduced through the opening. Especially striking is a comparison with the maxillary sinus, with which it is frequently associated in disease, and consequently also in diagnosis and treatment. The latter sinus communicates with the nose by an opening or openings, always situated in the superior portion of the cavity, so that it is necessary for pus or other fluid contents to have reached this level and be overflowing before it will escape into the nose.

Antrum empyema therefore has generally existed a comparatively longer time before it is discovered, and therefore those chronic changes in the mucous membrane—perhaps also in the osseous wall—which render these cavities so resistant to ordinary therapeutical applications, have had better opportunity to develop.

The frontal sinus, on the other hand, having its opening at the most dependent point, and being generally well drained, is not so often affected with the pathological conditions resulting from the long-continued contact of pus with its walls, and, for the same reason, an empyema being earlier diagnosed, we might suppose that radical measures would be less often required, and that simple irrigation through the nose would most often prove sufficiently effective. Unfortunately this method of treating the accessory nasal sinuses has fallen somewhat in contempt, without regard to the natural advantages which the frontal possesses over the others.

It may be observed that some specialists who proceed immediately to radical operation when it is a case of the frontal sinus are not averse to making an attempt to cure sphenoid empyema by a course of irrigation, because the latter evades, as a rule, thorough surgical procedures. The inference then is that either they have too little patience or, perhaps, dexterity to undertake treatment of the frontal sinus through the naso-frontal canal or too great a fondness for showy surgical procedures. This method of treatment has proved successful in a fair proportion of the cases in which it has been carried out, and as it is generally impossible to positively



ascertain the length of time the disease has existed we are justified in laying down the general proposition *that in all cases of frontal sinus suppuration, where we cannot be certain that polyps, granulation of tissue, necrosis or other chronic changes are present, we should, before*

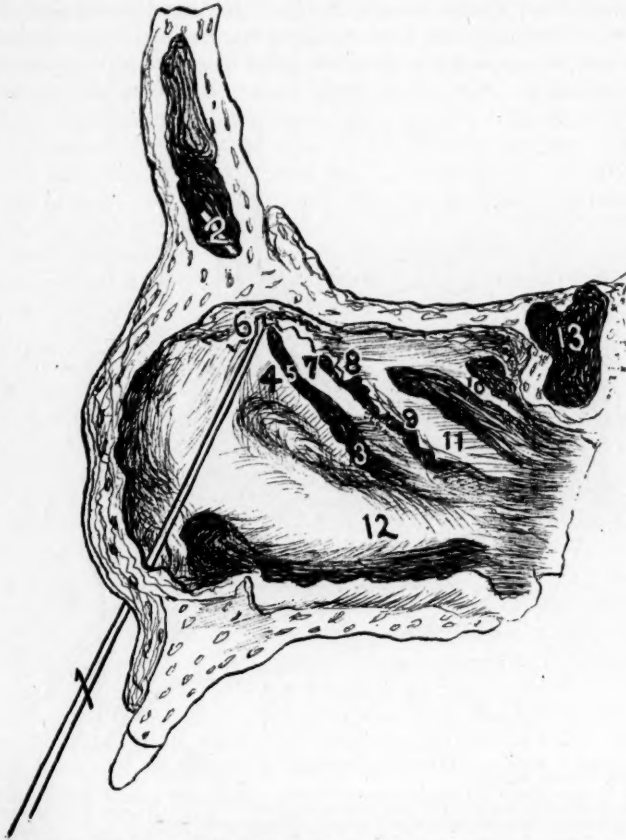


Figure 1. Section of anterior wall of nasal fossa, with middle turbinal resected. Sound represented introduced into frontal sinus.

1. Frontal sound. 2. Beak of sound in frontal sinus. 3. Opening into maxillary sinus. 4. Uncinate process. 5. Hiatus semilunaris. 6. Ostium frontale, just anterior to hiatus semilunaris. 7. Bulla ethmoid. 8. Ostium of sinus of bulla ethm. 9. Cut surface of middle turb. 10. Sup. turb. 11. Post. end of middle turb. 12. Inf. turb. 13. Sinus Sphenoidale.

*proceeding to the radical operation, make an attempt to cure by irrigation through the natural opening.*

Irrigation of the frontal sinus, by way of the fronto-nasal canal, serves also a very important purpose in connection with the diag-

nosis. When pus is found in the middle meatus, in or near the hiatus semilunaris, we are certain that either the ethmoid frontal or maxillary sinus, or some combination of them, is affected. Putting aside the subjective symptoms, which are unreliable, the illumination, which has only negative value, and Fränkel sign, not always obtainable, we have one sure evidence of *antrum* disease, namely, the exploratory puncture. But if, with or without antrum empyema, we find pus which we know does not come from this

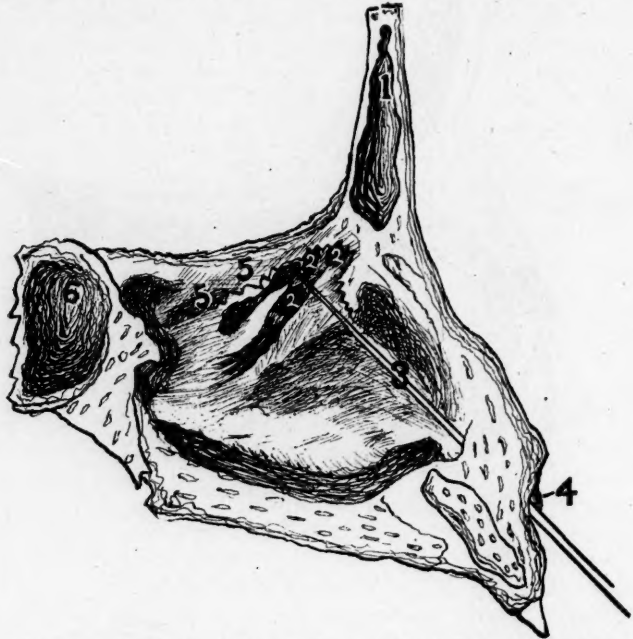


Figure 2. Section of nasal fossa showing sound entering one of ethmoidal cells. Middle turbinal resected.

1. Frontal sinus. 2. Unusually large openings of ethmoidal cells. 3. Frontal sinus sound making an angle of about  $45^{\circ}$  with floor of nose. 4. Ring indicating outward direction of beak. 5. Cut surface of middle turbinal. 6. Sphenoidal sinus.

cavity, how shall we differentiate between frontal sinus and ethmoid suppuration? Direct observation, we must admit, will often fail us, and we are left but one diagnostic expedient upon which we can depend, and that is the introduction of the sound, or, better still, the canula, through which a solution may be injected into the cavity.

*With the hiatus previously cleared of pus, and the canula properly introduced into the frontal sinus, pus brought away by irrigation is a*

*certain sign of frontal empyema, and the only sign which deserves to rank in importance with exploratory puncture of the antrum.*

To be successful in the employment of sound or canula, whether for diagnosis or treatment, it is necessary to have a clear conception of the anatomical characteristics of the parts concerned. The frontal sinus is, like other accessory cavities of the nose, subject to considerable variation in size, conformation, etc. Of the anomalies, that which has the greatest importance in connection with the subject of the use of sound or canula is the occurrence in its lower part of an anterior ethmoid cell. In attempting to sound the sinus, this cell may be entered and give the erroneous impression of having entered the sinus itself.

Very unsatisfactory, and, worse still, often positively incorrect, are the usual text-book descriptions which are given with reference to the communication existing between nasal cavity and frontal sinus. In describing this situation, it is generally stated that the hiatus semilunaris leads, by a small opening at its upper end, into the frontal sinus. In thirty cases examined by Zuckerkandl, he found that in sixteen there was either a bridge of bone in the upper part of the meatus, leaving only a blind opening above, or that the middle meatus communicated directly with the frontal sinus. The latter form of communication was so often encountered by Hartman that he considered it to be typical. In my own specimens I have found that in only one-half the cases was it possible to enter the sinus by a probe carried along the hiatus. In the other half the ostium was found either immediately or several millimetres in front of this hiatus. In one specimen in my possession, in which the uncinatè process is less than usually prominent, and the hiatus extends much less than usually forward, the nasal extremity of the fronto-nasal canal is found full 15 m.m. from the anterior end of uncinatè process in a direction above and a little forward. As a rule, however, the uncinatè process is our best guide, and when the probe carried just behind the prominence fails to engage in the canal, it will do so when reintroduced immediately anterior to it. Sometimes the ethmoidal cells communicate by openings with the infundibulum\* so large that they can engage the point of the probe, which the operator may believe to have entered the frontal sinus. (Fig. 2.) Above the bulla there is often also a quite considerable opening into its sinus, into which the probe can in some cases very

\* There exists some confusion in the use of the terms infundibulum and hiatus semilunaris, which led the German Congress of Nomenclature to take up the subject, with the result of adopting the term "infundibulum ethmoidale." I believe it is much better, however, to retain both terms, and, as Zuckerkandl has done, employ the term infundibulum to mean the funnel-shaped depression into which the maxillary sinus, ethmoid cells, and, in a certain proportion of cases, the frontal sinus, open, reserving the term hiatus for the mouth of the depression formed by the uncinatè process and bulla.

easily enter. Later on we will mention how best we may avoid such errors in operating upon the living subject.

Jurasz (Ueber die Sondierung der Stirnhöhle. — *Berl. Klin. Wochenschr.*, No. 3, 1887) was the first to advocate sounding of the frontal sinus through the natural opening in the nose. He used for the purpose straight whalebone sounds, and had the patient bend back the head, so as to bring the infundibulum to as near as possible a vertical position.

Hansberg recommended a sound bent at 30 m.m. from its end at an angle of  $125^{\circ}$ . Cholewa modified Hansberg's sound by making another slight bend in the beak. Lichtwitz, finding that the infundibulum was at right angles to a line drawn from its lowest point to the floor of the nose, recommended that the frontal sinus sound be made with a rectangular bend at 1 c.m. from its end. Schech adopted Lichtwitz's sound, but preferred to have it bent at 3 c.m. instead of 1 c.m. from the extremity. Hartman uses a sound with a bow-shaped beak and handle curved in opposite direction.

In order to discover which of the various styles recommended was most favorable for getting into the frontal sinus by way of the infundibulum, I made a series of tests with a flexible probe, bent at varying angle and distance from the end, upon a number of specimens kindly placed at my disposal by Dr. Hodge, of the Army Medical Museum, and upon others in my own possession, sixteen specimens in all, there was but one which I found impossible to enter with a curved sound introduced through the anterior nasal opening, due to the conformity of the middle turbinate in this case, and its close apposition to the external wall of the nose. In all other cases the frontal sinuses could be entered with the probe bent at varying angles and at varying distances from the end. I found that a probe bent a little more than  $90^{\circ}$  and about 30 m.m. from the end was that which entered with the greatest facility in most cases. When bent at less than a right angle or more than  $120^{\circ}$  (as the sounds recommended by Hansberg and Hartman), it was not possible to enter in some cases. I found, too, that the length of beak in Lichtwitz's probe fell considerably short of what was necessary to have the point penetrate to within the cavity of the frontal sinus, and that it must be at least 30 m.m. in order to succeed in all cases. What, then, seemed to be the most generally applicable sound was one bent at about 30 m.m. from the end and at an angle of from  $100^{\circ}$  to  $110^{\circ}$ .

A probe thus shaped and measured off in centimeters, when so introduced as to have its point just reaching the floor of the nasal

sinus, was in contact with the anterior border of the floor of the nose, at a point which averaged, in cases examined, 6 c.m. from the end of the probe. If it was rightly directed it could now, of course, be pushed farther in from  $\frac{1}{2}$  to 2 c.m., according to the depth of the sinus. As it enters the cavity, not only is the beak elevated, but the whole probe approaches more nearly a vertical direction, changing from an angle of about  $45^\circ$  with the floor of the nose to an angle of about  $60^\circ$ . If the beak of the probe misses the ostium frontale and comes forward upon the roof of the nose, or, as it may, enters one of the ethmoid cells, communicating by an unusually



Fig. 1.

large opening in the infundibulum or just above the bulla, generally the false direction will be shown upon the handle either by the incline or by the distance to which it has penetrated. In one of my specimens the beak introduced into an ethmoid cell went out of sight over a distance of 30 m.m. When it has penetrated an ethmoid cell, however, instead of the frontal sinus, the beak is generally pointing somewhat outwards, and therefore it is best to have the sound or canula marked by a small knob or ring like the Eustachian catheter, which informs you of the direction of the beak.



Fig. 2.

In order to meet all these requirements I have ordered an instrument firm to construct for me a probe and a canula like those represented in the drawing.

This probe is 16 c.m. long and with a diameter of 1 m.m. At 6 and 7 c.m. respectively from the rounded tip end are two small rings which serve two purposes, viz., to show the direction of the beak and the distance to which the same has penetrated.

A canula I have had made upon the same plan in two sizes, 1 and  $1\frac{1}{2}$  m.m., respectively and with outer end shaped for attachment of a rubber tube.

Taking an average of the claims of different writers, it would appear that in about fifty per cent of the cases met with in practice the frontal sinus is successfully entered through the nose. I believe, however, that one who has not experimented considerably upon the cadaver will often have a false impression of having entered the sinus when in reality the beak of the probe is caught in a narrowing of the infundibulum or fronto-nasal canal, or has entered one of the ethmoidal cells, or perhaps has only ascended to the roof of the nose.

A proof not previously mentioned of the probe being well into the sinus, and especially that its beak is not caught in one of the narrowings above mentioned, is the ability to rotate the handle within certain limits. Considerable excursion from side to side is permitted the beak when well into the frontal sinus, which can be executed by rotating the handle of sound between the fingers. With the probe here figured, observing all the precautions mentioned, I have been able in a series of forty-two cases in dispensary practice, taken at random, to enter the frontal sinus twenty-eight times. In but two of these had the middle turbinal been previously removed.

In case of its removal (anterior end) the proportion of successes would be doubtless much increased, and would reach, I am sure, at least seventy-five to eighty per cent.

To recapitulate: To successfully sound the frontal sinus we must have a probe bent at 3 c.m. from the end, which should be rounded, and at an angle of about  $100^{\circ}$ , though capable of being flexed to a greater or less extent to suit individual differences. Using the uncinat process as the guide (resection of the anterior end of the middle turbinate is necessary in some cases) to begin, we apply the beak of the probe well backward in the hiatus, and draw it forward and upward in the direction of the sinus at the same time that the handle is depressed. If it does not slip easily into the cavity, do not use force, but holding always the probe lightly in the hand, reintroduce, feeling for the ostium with the beak a little in front of the hiatus. If the sound be in place we will be aware of it by the following tests: (1) The probe will have penetrated such a distance as to measure more than 6 c.m. (between 6 and 7 c.m.) from its extremity to the point where the handle is in contact with the anterior border of the floor of the nose; (2) the direction will be such that it makes an angle of about  $60^{\circ}$  with the floor, or, what is the same thing, the handle makes such an angle with an imaginary horizontal line or plane, continuing the floor of the nose forward; (3) the beak of the probe will be directed forward (as shown by the ring indicators on the handle); (4) the handle will permit of a certain amount of rotation.



## ON A REMARKABLE CASE OF GLOSSO-PHARYNGO-LABIAL PARALYSIS COMPLICATED WITH ANEURISM OF THE AORTA.\*

BY W. FREUDENTHAL, M.D., NEW YORK.

In view of the fact, that in general the prognosis of bulbar paralysis is so unfavorable and the treatment of such patients so unsatisfactory, the case, which I have the honor to demonstrate before you to-night is a very sad one, more so as it concerns a genial and bright colleague, who until now has been quite a prominent figure among the medical men of his home city. His history is as follows: Dr. F. of O., sixty-one years of age, had always enjoyed perfect health in spite of a very extensive practice until November 14, 1894, when he came home tired and worn out, suffering from a severe attack of influenza. He had an incessant cough, caused by a permanent irritation in the larynx. The tonsils were swollen, nose clogged up and he had pain in the larynx. These symptoms persisted for several months, although in a less marked form. His voice became steadily weaker and quickly fatigued. He then went to Boston, where a colleague removed the tonsils. When I saw the patient for the first time, on the 8th of March, 1895, his language had become so indistinct that I could hardly understand him. He wrote down, however, that only a week ago he had been able to pronounce some sentences very distinctly. The patient, who lived at a distance of about 500 miles from New York City, had come to consult me after reading my article on "Rheumatic Affections of the Throat and Nose." I apparently agreed with his preconceived ideas as to his condition—very much to his relief. *Quod volumus, credimus libenter.* Personally I am sorry to say, I soon reached a different conclusion, as the examination revealed the following status: as the patient had a very voluminous tongue which even at that time he could not readily protrude, the laryngoscopic examination was quite difficult. In the nose and pharynx there were only slight inflammatory conditions. A marked redness and swelling was seen on the epiglottis, especially on its laryngeal surface. The left vocal cord was immovable in the so-called cadaveric position. The motions of the right vocal cord

\* Read before the Laryngological Section New York Academy of Medicine, February 27, 1901.

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were not as free as in the normal and very slow. Still it moved somewhat to the other side, compensating in a small degree for the complete paralysis of the left vocal cord. The appetite of the patient was good, the mastication easy, but deglutition somewhat difficult. He had to be careful in drinking or else regurgitation through the nose would occur. When the patient was speaking, it was noticeable, that he was entirely unable to pronounce the guttural sounds k and g, the p sounded like mp, etc. He could not whistle, but could laugh very well. The lingual sounds were preserved, as well as the motions of the tongue towards both sides and up and down. The sensibility was normal all over the upper respiratory tract. The reflex irritability of the tonsils, the soft palate, the uvula as well as the pharyngeal wall, and the epiglottis—I could not get further down with my probe—was not only preserved, but increased; even the application of cocaine impaired but slightly, this increased irritability.

Appetite, sleep and bowels were good, as usual. There was no history of syphilis. I did not examine the reflexes of the extremities in order not to divert the doctor's attention from his idea of rheumatism, but even without this confirmatory evidence, I was able to make the diagnosis of paralysis glosso-pharyngo-labialis. Now, this diagnosis explained the reduced mobility of the right vocal cord, but not the cadaveric position of the left one. I, therefore, examined the chest organs and found a pronounced aneurism of the aorta as the cause of the paralysis of the recurrent nerve. But before entering into further details of the disease and the role apparently played by the aneurism, you will permit me to report the subsequent progress of the case. If there had still been any doubt about the diagnosis, it would have been removed by the further developments. It is strange that such an intelligent colleague as was Dr. F., could be so easily deceived about his condition. He really felt better in the first few weeks of my apparently anti-rheumatic treatment. As I, as well as his companions, soon learned to understand his language and to read the words from his lips, I could easily suggest to him an improvement. In this hopeful state he wrote to me

*March 15, 1895.*—" \* \* \* That treatment had a marked effect and I feel confident it is going to be beneficial. My throat annoyed me much less. \* \* \*"

*March 24, 1895.*—"I think my voice is gaining a little."

*April 2, 1895.*—"I feel I am improving. Thanks to you!"

*April 10, 1895.*—"Have you any article on post-diphtheritic paralysis or the sequelæ of la grippe? I am anxious to ascertain if

any case is known when paralysis of a peripheral character ever followed la grippe. My throat feels better, but no change observable in the paralysis."

The doubts he expressed on that day disappeared after I told him that I intended to demonstrate him on the 11th before this meeting and that most likely a thorough discussion of his case could be expected. This morning he brought me the usual slip of paper on which he wrote: "I can again use my voice better." In spite of all these selfdelusions the disease made rapid progress.

You see here, gentlemen, this amiable colleague, on whom you will easily recognize the described symptoms. At the first glance you see a decided ptosis on both sides, a sign that the oculomotor nerve is also affected. You notice further, how frequently the doctor has to wipe his mouth and this salivation is a symptom that troubles him particularly. When I make him answer some questions I put to him you will observe the deficiencies in his speech, described above. The muscles of the neck (cucullares) are well preserved on both sides, and this also applies to the muscles of the extremities, which act well. The general electric irritability is unaffected, according to an investigation of Dr. N. No atrophy of any muscle is to be found.

What interests us especially here is the paralysis of the laryngeal muscles, which is caused by two factors. Firstly, the very large aneurism of the aorta produces the cadaveric position of the left vocal cord by pressure on the recurrent nerve. Secondly, the central affection has an influence besides on the action of all the intralaryngeal muscles. I must confess, however, that the position of the vocal cords was similar to that of other cases described in literature, in which there was no complicating aneurism. What leads me, however, not to lose sight here of the action of the aneurism is, first, its large size, the area of dullness being larger than a fist, and second, the fact that the right vocal cord extended a little towards the left side in a compensatory way.

It therefore seems to me, that the aneurism was the primary disease, although but few points in support of this can be found in the history, as for example, occasional hoarseness and transitory asthmatic attacks—and that the bulbar paralysis with its consecutive affections followed later. Now, the important question arises what shall we do for our colleague, who is in such an unfortunate condition? So far, I have applied general systematic galvanization and local massage with my electric vibrator. Besides the ordinary remedies have been used according to the symptoms. But what we

have to fear more here, than in other cases of paralysis glosso-pharyngo-labialis is sudden suffocation, an accident not so very uncommon in this condition. To prevent this, different remedies have been proposed. The oldest is tracheotomy.

But for many patients the discomfort from wearing the tube is extremely disagreeable. The same applies approximately to intubation. It has also been recommended by O'Dwyer to remove a part of one or both vocal cords in order to thus produce a permanent opening of the larynx. All these measures had been proposed to the medical advisers and friends of our patient, but were not accepted.

Since bringing this case before a medical society of New York City on April 11, 1895, at which time the above remarks were made, it has steadily progressed to a fatal termination. It might perhaps be of interest to present some of the observations which the patient made on himself. I would state that the doctor occupied a most respected position, by reason not only of his integrity, but also of his medical knowledge. It is necessary to mention this in order to understand the personal observations of a colleague, who perhaps realized exactly his condition, but did not venture to confess it even to himself. From his daily records, which he brought me every morning, I cite the following. He writes on

*March 23, 1895.*—"I am certainly no worse this morning and hope you may think I am a little better. I want to see a real gain established, then I can wait more patiently. External pressure shows a little soreness on left side of larynx."

*March 26, 1895.*—"I am using my voice a little better this morning." On

*April 11, 1895*, he wrote down more particularly at my request some of his symptoms:

"At times, lasting from a few seconds, to more or less for several days, certain muscles seem temporarily parietic. I have a greatly diminished power to blow my nose, and then after a few days much more power and then again lapse back to the inability. It is so to use any voluntary effort to assist in a passage of the bowels. The diaphragm sometimes is in the same state. To inspire, I am often cut off for a second or two. Then I will be weak in the arm—and then be all right."

*April 12, 1895.*—"Did the colleagues think I shall regain my voice? They think it peripheral and not central in origin, do they not?" (! ! !) On

*April 17, 1895*, he writes, "Dear Dr. Freudenthal: Accept the small present enclosed, as a meager expression of my appreciation of your ability, interest and courtesy. You have been very kind and I hope *soon* to return partially for all this."

While he was thus full of hopes, he found a little later on the arrival at his hotel the last number of a New York medical weekly, in which he read a short report of my demonstration of his own case, which gave the main facts. The effect on his mental and bodily condition was extremely painful. When I saw his huge figure lying on the sofa of my waiting room the next morning, shaken with sobs, it occurred to me more than ever before, how limited were our therapeutic resources. The very same morning he felt that his right arm was affected by the progressive paralysis and that he could write only with an effort. On the same day he left for his home.

The further progress was a rapid one: He could not write any more himself, but I received regular reports from his friend, Dr. P. He writes:

*June 8, 1895*.—"Our mutual friend, Dr. F., has gradually failed. He is still able to go out for a ride, but will not be able to do so much longer, if his disease progresses. He has a feeling of great muscular weariness. His right arm and hand he can use very little, and is only able to write by steadying it, and his writing is angular, much like a beginner's."

He often gets attacks of suffocation, which, of course, are due to the inspiratory insufficiency, and feels very much depressed.

*August 9, 1895*.—"There has been a gradual failure of strength with entire loss of use of right arm and hand and nearly entire loss of left. The left hand can be used for pointing out the letters on a card, which is his only method of communication. This is often difficult. The legs are weak, so much so, that it is impossible for him to walk without constant support. He has two attendants, who care for him day and night. He eats quite a good deal and those who care for him insist that he swallows better than he did. I am not sure about that."

The symptoms that troubled him most, and for which he urgently requested relief, were the attacks of suffocation. But he refused constantly any operative interference. Now this condition became rapidly worse until one morning, when he was seized with an attack of suffocation, to which he succumbed within a very few minutes.

I was informed that an autopsy was made, *but no atrophy was found in the central nervous system, nor muscular apparatus*, as shown

by a microscopical examination. I am sorry to say that the details of the post-mortem examination are missing.

On reviewing this case we find several points of especial interest. We have before us the typical picture of the "Maladie de Duchenne," or the paralysis glosso-pharyngo-labialis. In the usual course of these cases one of the first symptoms is a partial paralysis of the tongue. This shows itself by an inability to bring the tip of the tongue against the teeth, thus making it impossible to pronounce the lingual sounds. Later on, swallowing is impaired as the dorsum of the tongue cannot be approached to the velum. In our case the paralysis of the back of the tongue was the first symptom to set in and not until some time later did paralysis of the tip of the tongue appear. We could not note an atrophy of the muscles of the tongue, on the contrary, the tongue seemed rather too voluminous. Soon also a paralysis of the velum was added to these symptoms, and the difficulty in deglutition was still further increased. Afterwards the case developed into the typical picture of the progressive atrophic bulbar paralysis. In this disease we find now and then some nerve ganglia affected, but without perceptible atrophy. It is therefore the more noticeable, that no atrophy was found in the above case. This reminds us of the rare cases reported by Oppenheim, Eisenlohr, Wilks and H. H. Hoppe. I think I am justified in placing my case in this category. As the symptoms during life were very similar and the pathologic-anatomical findings also, we shall have to leave it to the future to decide the correctness of Hoppe's suggestion, that there exists in these cases\* an affection of the cortical substance, which we cannot demonstrate with our present means. At any rate these cases require special consideration, as Goldflam rightly remarks, as they differ in certain points materially from typical bulbar paralysis. I cannot go into further details regarding these questions as they would lead us too deep into the purely neurological field.

What interests us more, however, is the laryngeal affection. We had here a large aneurism of the aorta from which a paralysis of the left vocal cord could easily be expected. We had furthermore the affection of the central nervous system in which a paralysis of both crico-arytænoidei postici is nothing unusual.

What caused the laryngeal symptoms in our patient? Was it the aneurism alone? Nobody will admit that. Or was it in consequence of the bulbar paralysis alone? I believe that even that cannot be accepted. It seems to me rather probable, that both con-

\* *Berl. Klin. Wochenschrift*, p. 332, 1892.

ditions helped to produce these effects. The reasons for this belief, I may repeat here, are that the right vocal cord moved in the beginning of the disease somewhat over the median line towards the other side in a compensatory manner. This seemed to me a sure sign of the primary influence of the aneurism of the aorta. Later on, this picture changed and the paralysis of the posterior crico arytenoides was plainly visible, to such an extent that both vocal cords were now equally passive, the motion of the right being as limited as that of the left. We were, therefore, forced to take this paralysis into consideration and if possible to do something against it. As mentioned above, in order to prevent the danger of suffocation, which was to be expected surely, we proposed one of three possible operations, viz.: Tracheotomy, intubation, or the removal of a part of the vocal cords. Alas, all this was rejected and the patient died from suffocation.

That this accident does not occur so rarely, is proved by the cases reported in the literature. For this reason only lately Dr. N. L. Wilson (*THE LARYNGOSCOPE*, September, 1900) speaks in favor of an early operation, a view, which we can also support by our experience. Of course it cannot be denied that in our case the intralaryngeal operation proposed by O'Dwyer would have been extremely difficult if not impossible. Even the simple examination of the larynx was very tiresome with this hardly manageable, somewhat voluminous tongue, in connection with the tremor and the permanent salivation. Hence I should not have liked to resort to such a procedure. But there still remained the simpler intubation or tracheotomy which undoubtedly would have postponed the end. I myself have observed two other cases of abductor paralysis which both terminated in a similar way suddenly falling dead while walking on the street.

Only a few weeks ago an article appeared by Charles W. Burr and D. J. McCarthy (*American Journal of the Medical Sc.*, p. 46, 1901) on Asthenic Bulbar Palsy. The authors report one case of a married woman of nineteen years of age. They do not mention any laryngeal symptoms. After narrating the history they remark, that finally difficulty in swallowing set in, dyspnea appeared, cyanosis and coma developed and she died the next morning. The necropsy revealed nothing. Very peculiar is the *second case* seen by Burr and McCarthy. It was in a woman of twenty-four years of age. First the left arm began to be numb, a day or two later the numbness extended to the left leg. Then she suddenly developed true palsy of the right face. Afterwards appeared



"a little trouble in swallowing, slightly nasal voice, weakness of the muscles of mastication on both sides, etc." There was no muscular wasting anywhere. "After a few months she improved rapidly and now is quite well." !! The authors placed this case tentatively there. Quite in contrast to this is the case observed by Allbutt.\* It is an instance of bulbar disease, the issue of which was "a great shock and a painful lesson" to him.

Miss —, aged eighteen, of good personal and family history, caught cold six months previously, followed by stiffness of the tongue and jaws.

These symptoms disappeared after a few weeks. Soon her language became peculiar and she talked as if with a potatoe in her mouth. Phonation did not fail, but articulation, as if there were an inco-ordination of the muscles of speech. When she commenced to read, it went pretty well, but soon she became unintelligible. Her friends told the doctor that she read much better when she was alone. Later a difficulty in swallowing came on, the description of which seemed to be like that of "neurotic spasm of the esophagus." All of these symptoms together caused Allbutt to make the provisional diagnosis of hysteria, "yet with reserve." The patient by the way was a healthy, well-looking girl, with no evidence of palsy or atrophy. Visual field was normal. Allbutt then continues: "on some moral discipline and tonic medicine with valerian, she improved so much that our apprehensions were lulled to rest and I did not see her again." She seemed quite on the way of recovery. One morning her symptoms became worse again, especially the swallowing, and her mother, seeing this, warned her somewhat sharply to control herself. "The next day the patient came into her mother's bedroom about 8:30 a. m.—to protest, as well as she might, poor child, that she really could not help these eccentricities—when suddenly she fell to the ground, was convulsed, turned blue and died at her mother's feet. She could hardly have died by choking with food, as this terrible event happened before her breakfast." This was most likely, says A., also one of those rare fatal instances in which the medulla has been found apparently free from structural disease. To us, however, it is very evident that this girl suffocated in consequence of a paralysis of the laryngeal muscles, just as the other cases quoted, and it gives us a new warning to watch these cases very carefully and permanently.

\* Allbutt's *System of Medicine*, Vol. vii, p. 238.



## PRIMARY CARCINOMA OF THE NASO-PHARYNX; REPORT OF A CASE.

BY CHEVALIER JACKSON, PITTSBURG, PA.

On March 5th, Miss J. P., æt. twenty-three, a corkworker, was referred to me by Dr. Leon Sadowski. She is white, American born, of German parentage. Her family history is negative as to cancer, syphilis and tuberculosis. There is no personal specific history. She complained of constant lancinating pains in her right cheek, above her right eye, deep in the right ear, and in and under the right lower jaw, so severe at night that she has been unable to sleep for three months. Dr. Sadowski stated that during the few days she was under his care half-grain doses of morphine had no effect. Prior to three months the pain had been intermittent for a year. Right nasal stenosis was first noticed three weeks previous to her consulting me, but had probably existed longer. The discharge anteriorly and posteriorly was odorless, thick and yellow, with no admixture of blood, and there was no history of hemorrhage. There was infiltration and tenderness of the cervical, post-cervical and submaxillary lymphatics. Ankylosis of the jaw prevented separation of the incisors more than half an inch. The face was asymmetrical, right cheek somewhat swollen, and the general appearance of the patient was somewhat cachectic. Dr. Theodore Diller, after a careful examination, reported the functions of the fifth and seventh nerves unimpaired. Dr. C. A. Wishart kindly examined the eye ground and reported a low grade optic neuritis i. e. both eyes. V. A.: O. D.  $\frac{15}{20}$  O. S.  $\frac{15}{70}$ . Upon inspection of the fauces I found a slight redness and infiltration of the right pillars and a bulging downward of the velum on the right side. The rhinoscopic mirror brought into view a large cauliflower-like mass completely hiding the right choana and fossa of Rosenmüller, and burying from view all of the Eustachian prominence except the border of the orifice, which was in line with the vomer owing to the swollen and infiltrated condition of the eminence. This lateral mass was in contact with large masses of adenoid tissue which hung downward from the vault, and which in appearance differed from adenoid hypertrophy only in a red-bordered ulceration at the free extremities of some of the masses. The jaws could not be separated sufficiently wide to permit the finger to reach the vault, but on palpation through the velum a soft pultaceous mass could be felt above a harder

mass, which latter was evidently the infiltrated Eustachian prominence. On anterior rhinoscopy after depletion with adrenalin and cocaine, a grayish-pink mass could be seen back in the naso-pharynx, but it was apparently not attached to the turbinals, and was certainly not in the nasal cavities. Several fragments of the growth were removed anteriorly with alligator forceps. Pending a report the patient was put on specific treatment, with large doses of morphine and antipyrin to control the pain. Microscopical examination of the fragments by Dr. Edward Mayer showed nothing to indicate malignancy. For the purpose of getting a more satisfactory specimen, and of making a digital examination, the patient was chloroformed, a gag inserted and the rigidly ankylosed jaws forced open. The finger determined the growth to spring from the outer wall of the naso-pharynx, both anterior and posterior to the Eustachian em-



inences, though the point of greatest degeneration, and therefore probably of origin, was at the junction of the vault with the outer wall of the naso-pharynx between the Eustachian orifice and the choanal margin. The pterygoid plates could be plainly felt as the soft degenerated tissue gave way under the finger. The Eustachian eminence was three times the size of its fellow and quite hard except on its anterior aspect where it was breaking down. The posterior end of the middle and inferior turbinal were infiltrated, but not breaking down, evidently having been but recently involved. With the aid of Dr. Milligan I removed all of the growth that would come away readily, along with the involved right Eustachian eminence by means of the cold snare, Gottstein curette, side curette and Heyman's adenoid forceps. The masses aggregated the size of a hen's egg. Dr. Edward Mayer examined sections of the growth microscopically and reported it to be a columnar epithelioma.

**GUMMOUS TUMOR IN THE LARYNX IN A BOY SIX YEARS  
OLD, DUE TO LATENT HEREDITARY SYPHILIS.**

BY GOTTLIEB KIAER, M.D., COPENHAGEN, DENMARK.

Hans S., inmate six years in Queen Louisa's hospital for children.

The father has syphilis, the mother was infected four months before pregnancy; during this time she received mercurial inunctions. She has never aborted.

The patient is an only child with precocious development as to walking, speaking and teething. He has always been slight, but lively and apparently healthy. At the age of three years he had measles, after which was developed a left-sided pneumonia; recovery uneventful. In the winter of 1898 he had the whooping-cough, followed by a discharge from both ears. Upon the whole, he has, with the exception of a little coughing now and then, been healthy until a month ago, when swellings began to appear in the throat, partly lateral, partly anterior; these have increased in size. The respiration became stridulous, but there has been no impending suffocation. He has begun coughing and brings up slimy lumps. He sweats a great deal and feels tired and faint, but only now and then has he been confined to bed. The appetite, never good, has steadily diminished, but there has been emesis. Temperature, 37.5°C.; pulse, 144 (before the examination), regular and quick. He is pale and thin and has very bad hearing. The respiration is not accelerated. There is no inspiratory laryngeal stridor during sleep, and when awake respiration is noisy, but without inspiratory depressions in the jugular or cardiac region. He breathes mostly with open mouth, but his nostrils are open. Considerable adenoid vegetation present.

There is some hypertrophy of the tonsils. There is a slight paresis of the left side of the face with effacing of the naso-labial sulcus and some laryngothalmus. The pupils are equal and normal; there is no keratitis.

Facial paralysis is said to have arisen only during the last few days. The tongue is moist and coated. Under the right ear is seen a fluctuating, red swelling in the skin about as large as a plum.

The stethoscope reveals nothing abnormal. The abdomen is flat without palpable swelling of the spleen or liver. On the middle of the chest in the region of the third, fourth and fifth costal cartilage is found an intumescence of the size of a 50-cent piece; has no fluctuation, but intense soreness. The left part of the thyroid gland is swollen and indolent. The urine is normal. April 11th,  $\frac{37.7}{37.4}$ . April 12th,  $\frac{37.6}{36.4}$ . The swelling in the sternal region has increased. The soreness seems completely to have disappeared. The swelling stretches to the right of the sternum, but there is no fluctuation. April 13th,  $\frac{37.6}{36.6}$ . April 14th,  $\frac{37.0}{36.0}$ . April 15th,  $\frac{37.9}{36.3}$ . April 16th,  $\frac{37.1}{37.2}$ . April 17th,  $\frac{36.9}{37.2}$ .

The respiration during sleep is unchanged and the swelling in the sternal region has disappeared. The glands at the right of the ear and the enlargement of the left thyroid patch is unchanged. Prescribed solution kali iodide, 5::200. 10 grams four times daily,  $\frac{2}{4}$ . During the last days there has been some difficulty in swallowing meat, but probing discovers no stricture in the esophagus. April 27th,  $\frac{37.0}{37.2}$ , abscess under the right ear has perforated spontaneously. May 2d.—Laryngeal swelling seen in the left glosso-epiglottic region about the size of an almond. It presses the left half of the epiglottis over against the right side by which the epiglottis assumes the form of a lyre. From there the infiltration continues at the back, filling all of the left sinus pyriformis and at the same time it extends into the vestibulum laryngis, taking the largest part of this and only left a narrow fissure as an air passage, thus preventing a deeper view of the parts. The infiltration has a compact, stiff appearance. The surface is smooth, tense, and curled without ulceration. The color is natural with the exception of the expanded vessels. The tumor on the throat is seen and felt at the point of the thyroid cartilage. The voice is aphonic. May 5.—The voice is clearer; the difficulty in respiration is less than formerly. May 13.—Facial paralysis has now almost disappeared. May 30.—The laryngeal tumor is disappearing from the glosso-epiglottic region. The epiglottis is natural again; the right vocal cord is now to be seen; outwardly there is no swelling to be felt; respiration is free and the speech is good.

Prescribed inunctions  $1\frac{1}{2}$  grams. Solution of kali iodide 5::200, 10 grams four times daily.

June 6th.—The infiltration now appears only as large as a pea, the swelling being over the left vocal cord. The sinus pyriformis is free. June 27th.—Inunctions of iodide of potash. September 24th.—Larynx is normal; urine is normal. September 25th.—The

patient is dismissed after having taken 100 grams of iodide of potash and 36 inunctions of  $1\frac{1}{2}$  grams, etc., etc. He is somewhat pale, but is in pretty good state of health.

This case serves as an example of latent hereditary syphilis. The child, born of syphilitic parents, developed normal to the seventh year. Then he showed signs of syphilis and at the same time developed gummatous infiltration on the sternum and larynx and polyadenitis, which is said to be peculiar to congenital syphilis. Later he developed a left-sided facial paralysis. The gummosus infiltration on the sternum spread rapidly downward, then completely disappears in the course of four or five days. The infiltration in the larynx has quite a capacity for resistance, and only ceased during the iodide of potash treatment after the facial paralysis had disappeared. There was an outward tumor of the throat at the point of the thyroid cartilage. In all the literature at my disposal I have only found two cases like this. Schoetz, *Deutsche Med. Wochenschr.*, 1889, No. 36, cases 1 and 4. Two boys aged respectively nine and twelve years. Both like my case, first-born and healthy at birth, and only at the beginning of second dentition showed symptoms of syphilitic development. The larynx was affected and in one case tracheotomy was necessary. Cases of syphilitic larynx in children are no rarity. J. Mackenzie, Semon, Chiari, Lewy, Arslan, Sokolowsky and Frank D. Brown have reported them, but the rare gummatous form has seldom been observed. It is impossible to diagnose the gummatous larynx from neoplasms like sarcoma, and only the treatment can determine the etiology.

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## SOCIETY PROCEEDINGS.

### NEW YORK ACADEMY OF MEDICINE.

#### SECTION ON LARYNGOLOGY AND RHINOLOGY.

Stated Meeting, February 27, 1901.

W. K. Simpson, M.D., Chairman.

#### **Preparations of Suprarenal Extract.**

DR. W. F. CHAPPELL exhibited lozenges of the suprarenal extract, each containing  $2\frac{1}{2}$  grains, made up with biborate of soda and sugar. They are very pleasant for internal administration, and as they dissolve very slowly in the mouth, they temporarily exsanguinate the tongue, buccal mucous membrane and pharynx. Dr. Chappell also presented a ten per cent solution of suprarenal extract, made up with one per cent of resorcin. This keeps well, and is useful for sprays for the throat and larynx. Some of this solution had been kept for several months without any evidence of deterioration.

DR. T. R. CHAMBERS said that he had made some experiments with the adrenalin. So far he had found its internal administration causes nausea and has no effect in contracting the blood vessels; hence, when swallowed whole it was useless, but if allowed to dissolve slowly in the mouth the local effect would be satisfactory.

DR. C. G. COAKLEY said that about one year ago he had mentioned resorcin as an excellent preservative for suprarenal extract, but he had used only a one per cent solution, yet it had kept the solution perfectly for months.

DR. J. WRIGHT presented some hand trephines which he had used for the last three or four years in opening the antrum and sinuses. They were simply the ordinary bevelled cranial trephines reduced in size.

DR. EMIL MAYER said that he had objected to the use of the trephine in this region, during the discussion at the last meeting, and in doing so had had reference to the electro-trephine, and not to the instruments of this kind, which can be controlled by the hand.

DR. FRANCIS J. QUINLAN referred to a case presented by him at the last meeting. Since that time, he said, he had subjected this patient to thorough antispecific treatment, but the symptoms of



dysphagia and dysphonia had increased rather than diminished. The man had then developed some fever and there was every evidence of infection. The cervical glands in the meantime had become involved. After consultation, a complete laryngectomy had been done, and he now desired to exhibit the larynx that was removed by Dr. Bodine. Running down for about one inch into the deeper tissues of these structures was found an extensive cancerous mass that not only filled up the wall of the larynx but likewise involved the esophagus as well.

DR. W. K. SIMPSON recalled the fact that a considerable difference of opinion had existed at the last meeting, some thinking the growth syphilitic, and others malignant. He had at the time looked upon the growth as malignant, basing that opinion upon the peculiar appearance of hardness.

DR. WRIGHT said that on looking for a moment at the last meeting at this case it had appeared to him to be specific, and he mentioned this to emphasize how difficult it is to make a snap diagnosis in such cases. He had seen two or three cases of this nature in the past month, and had found it impossible to make a satisfactory diagnosis without a microscopical examination, and considerable clinical study.

DR. W. C. PHILLIPS made the point that glandular complications of malignant disease of the larynx might sometimes come on very late in the disease. He had at present under his care a patient in whom the first evidence of the disease had appeared over a year and a half ago with hoarseness. There was now a tumor filling over two-thirds of the cavity of the larynx, though without the slightest evidence of glandular involvement. The growth was entirely within the laryngeal box.

#### **Growth from Septum.**

DR. EMIL MAYER presented a growth which had been taken from the upper part of a septum of a woman, sixty-six years of age. She had come to him last January with a history of having had profuse bleeding from one side of the nose for the past three months. The clinical diagnosis had been angioma of the septum, and fearing hemorrhage, she had been taken into the New York Eye and Ear Hospital. The growth had been removed at one sitting with the cold snare, aided by the use of suprarenal extract. The pathologist had reported that a large portion of the growth was composed of blood and shreds of altered fibrin. The growth proper was composed of connective tissue cells of various forms, usually without definite arrangement. It was liberally supplied



with blood. It was peculiar in that it presented the elements of both malignancy and benignancy side by side. The operation had been done six weeks ago, and there had been no further hemorrhage, and no return of the growth. His own opinion was that the growth was benign.

#### **A Case of Hodgkin's Disease (?).**

DR. QUINLAN presented a little boy, about nine years, who was sent to him at St. Vincent's Hospital last January with his tonsils enormously enlarged. They had been removed finally after repeated cuttings. The boy presented at that time the characteristic appearance of a child with tubercular adenitis, but this condition was thought to be largely the result of the condition of the tonsils. Shortly after the operation both sides of the neck became enormously swollen, and a blood count taken at the time showed a decrease in the red and an increase in the white cells. About ten days ago, shortly before retiring, he had been attacked with nausea and the next morning the mass had entirely disappeared. The temperature had risen rapidly to 106° F., and had then gradually fallen to the normal. During this period the boy had lost nearly twelve pounds. Several photographs were presented to show the condition of the boy at the different stages. The speaker said that there was, of course, some doubt as to whether this really was a case of Hodgkin's disease. There had been no evidence of a purulent accumulation and the mass had felt extremely hard just before the sudden and mysterious subsidence. The stools were also examined for pus or blood, but with negative result.

DR. MAYER thought the picture of the child suggested that of Hodgkin's disease with, in addition, a tense swelling, possibly the result of a suppurative process that had eluded even the careful observation of those in charge. The elevation of temperature seemed to support this view.

DR. MEIERHOF said that he had seen such large, hard glands in the neck in cases of retropharyngeal abscess. Savage, the anatomist, had pointed out that in children the glands lie between the bodies of the vertebræ and the pharynx, and that these glands disappear at about the age of this child. He had himself seen many retropharyngeal abscesses, and would suggest that in this case the pus might have found its way laterally through the loose tissue. Two or three years ago he had seen a case of supposed peritonsillar abscess in which numerous punctures failed to detect pus. A general surgeon had then made a very deep incision into the neck before he had succeeded in reaching the abscess.

DR. W. L. BANER said that if the diminution of the swelling had been due to the rupture of an accumulation of pus, certainly at least ten or twelve ounces of pus must have been discharged, and this should have attracted attention. He had seen the child the morning after the subsidence of the swelling, and the glands had then been only about the size of the ends of the fingers.

DR. QUINLAN, in closing, said that the walls of the pharynx had been very carefully examined repeatedly before the operation, and there had been absolutely nothing to excite even a suspicion of retropharyngeal abscess.

#### **Exophthalmos of Doubtful Origin.**

DR. EMIL MAYER presented a case of exophthalmos of one eye occurring in a young man. Vision was normal and the ophthalmoscope showed no cause for the condition. His nose was so much obstructed by a cartilaginous deviation that no view of the interior could be had and it became necessary to perform the Asch operation. Since then it had been possible to eliminate any pathological condition in the nose as a cause of the exophthalmos. He was of the opinion that there was an osteoma or a fibroma springing from the ethmoidal region on one side and the frontal sinus on the other. This probably explained the great mobility of the eyeball. According to the history, the man had received a very severe blow in that region about fourteen years ago. One year later he had developed acute articular rheumatism and endocarditis, and at this time the eye began to bulge. The swelling dated back so many years that it could hardly be a malignant growth. This was one of the very few Asch operations that he had done under local anesthesia, the cardiac condition making anesthesia dangerous, and it had been accomplished with no special difficulty.

DR. T. R. CHAMBERS presented a man with cleft palate in order to demonstrate the ease with which the Eustachian catheter could be introduced.

DR. QUINLAN presented a man about fifty-five years who had been injured last May in the region of the frontal sinus by a severe blow. A few weeks ago he had made an exploratory dissection, and had found one of the frontal sinuses filled with spiculæ of bone. The encroachment of the septum had interfered with the movement of the eyeball, resulting in a dacryo cystitis. The operation had given considerable relief; the appearance of the patient has been greatly improved by it.

DR. QUINLAN also presented a woman, aged twenty-one years, who had come to his clinic with symptoms of urgent dyspnea. The vocal cords had presented complete abductor paralysis and suffocation seemed imminent. He at once performed tracheotomy, and had kept the tube in for two weeks. The cords since then showed marked movements. She was now doing well, but there was still considerable sub-mucous thickening below the cords that caused some hoarseness and slight dyspnea upon exertion.

DR. MEIERHOF said that he had seen cases of this kind in which the cause of the dyspnea had been that the vocal cords could not be separated because they were bound down by these fibrous bands. If the latter were separated, and then moist inhalations employed, the patient would be relieved.

DR. MEIERHOF said that he had seen cases of this kind in which the cause of the dyspnea had been produced by means of pus finding its way into the larynx from the ethmoidal and sphenoidal sinuses during sleep, the secretion becoming inspissated and mixed with dust, formed fibrous-like bands, thus holding the cords down in the position of adduction. If these bands were removed by a moistened swab and then followed by moist inhalations, the patient would not only be relieved of the dyspnea, but also of the aphonia.

DR. R. C. MYLES recalled a subglottic case with extreme dyspnea, seen about two months ago. He had hesitated to do tracheotomy, though prepared for it as an emergency. She had been given large doses of the iodide, 80 grs. t. i. d., and was now singing on the stage.

#### **A Case of Laryngeal Stenosis.**

DR. W. K. SIMPSON presented a man with laryngeal stenosis. There was a history of slight hoarseness lasting about one year. About four weeks ago there had been a sudden exacerbation, associated with pain and difficulty in breathing. At the present time, the whole left side of the larynx was involved at the expense of the arytenoid cartilage. There had been a purulent discharge from that region; hence he presumed it was a case of perichondritis. The man was fifty years of age, and had no history of syphilis. It was possibly secondary to malignant disease. At present he was under treatment with iodide.

DR. MAYER said that he had reported a case of perichondritis with autopsy, in which the hoarseness had lasted for sixteen years, and had exhibited an acute exacerbation with abscesses.

DR. WRIGHT said that he had had two or three cases apparently with no more obstruction, and yet they had died suddenly within a few hours after examination. He regarded the man as being in a very dangerous condition.

DR. COAKLEY thought these cases should be operated upon early, not only because of the danger of sudden death, but in order to prevent destruction of cartilage. He would favor tracheotomizing the patient and making an external exploratory incision down upon the necrosed cartilage and treating it surgically as necrosed tissue in other regions of the body.

#### **A Remarkable Case of Glosso-Pharyngo-Labial Paralysis.**

DR. WOLFF FREUDENTHAL reported this case.

DR. WRIGHT said that this case exactly corresponds with cases first described many years ago by McCall Anderson and others. The explanation was that there was first an abductor paralysis, but as the disease progressed it fell back into the cadaveric position. It was supposed that there was an ascending neuritis to the base of the brain, where it crossed over at the chiasm and continued as a descending neuritis which caused the abductor paralysis on the other side. The speaker said that he had just seen a case of carcinoma of the esophagus in which the disease had extended down the esophagus and had there involved apparently only one nerve, but the peripheral result was the same as in this case. How much the bulbar paralysis in the case presented complicated the laryngeal condition, it was difficult to say.

#### **A Combined Intra and Extra-Nasal Operation for the Correction of a Congenital Concave Vertical and Lateral Deformity of the Nose, with Report of a Case.**

DR. B. S. BOOTH, of Troy, read a paper with this title. The case reported was that of a woman with deviation of the septum and a saddle-bag deformity. On March 8, 1900, he had done an intranasal operation for the correction of the deviation, using cocaine and suprarenal extract. Two incisions\* had been used, one dividing the cartilaginous septum at the most prominent part, and the other that portion lying just anterior to the bony septum. After forty-eight hours the gauze and splint had been removed, and after irrigating the parts, replaced. On April 14, 1900, under ether the extranasal operation had been done. An incision had

\* Besides the antero-posterior incision.

been made over the dorsum of the nose, and the nasal bones loosened and elevated. Pieces of gauze were now packed in each nostril to hold the bones in place. The next step was to relieve the pinched look of the nose. This had been done with a curved needle and catgut, which were made to take a circuitous course.† An aristol dressing was used, and it healed by primary union. The result was quite satisfactory. Little or no scar resulted because of the subcutaneous suture. The use of cocaine and suprarenal extract he believed preferable to general anesthesia in many cases. The patient had died ten weeks after the operation from cerebro-spinal meningitis.

DR. MAYER congratulated the author on his lucid description of an operation for saddle-bag nose. He had often wondered why some of the operations were not done externally. After extensive experience and much study of the comparative advantages of local and general anesthesia he had come to the conclusion that it was, on the whole, far better to employ general anesthesia in operations for septal deviations. The Asch operation, if properly done, was a painful procedure. The old method of dressing was to use packing with cotton wrapped about a tin splint soaked in 1 to 5,000 bichloride; the more modern dressing was with the tubes, and while the patient did not breathe altogether freely through the tubes, he inhaled some air, and this in itself acted as an excellent hæmostatic.

DR. T. J. HARRIS said that in a number of cases general anesthesia had been impracticable. He had lately used the cocaine and suprarenal extract, and had then used nitrous oxide gas for the minute or two during the breaking of the septum. This had answered admirably.

DR. MYLES said that lately he had cut the cartilage from the nasal spine and had extended the incisions up to and sometimes into the perpendicular plate of the ethmoid, something after the manner of the Gleason operation. It had proved a useful procedure in these extensive deviations. One tongue-shaped bevelled incision was frequently adequate. Certain cases required a straight incision, which extended from the curved one toward the bridge of the nose. He agreed with the last speaker regarding the statement that the chief pain was caused by breaking the bony septum.

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† Drawing the soft parts on either side of the nose into place to fill in, or build up the pinched-like or concave deformity.

DR. T. PASSMORE BERENS said that so far nothing had been said about the occurrence of shock in nervous patients. This occurred even in some cases in which there was only very little real pain.

DR. QUINLAN thought that this patient had died from an infective basilar meningitis, as he had had a similar experience some time ago. Even if patients do not feel pain under local anesthesia, they often suffer a good deal of shock, and as it was totally unnecessary, the practice should not be encouraged when complete anesthesia, as it is administered to-day by experts, is really as safe a method as could be desired.

DR. BOOTH said that he had operated many times under local anesthesia in both men and women, and had experienced no difficulty. He used the gauze merely as a precaution against hemorrhage, and used the splint afterward. He had not observed any difference in the healing in the cases in which local or general anesthesia had been used. He thought the shock nearly as great from ether as from pain following the use of local anesthesia. The symptoms in the last illness of his patient had been distinctly those of cerebro-spinal meningitis, and he did not believe it was an infective meningitis.

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## LARYNGOLOGICAL SOCIETY OF LONDON.

SIXTY-SECOND ORDINARY MEETING, JANUARY 4, 1901.

F. DE HAVILLAND HALL, M.D., President, in the Chair.

The following cases and specimens were shown :

### **Clonic Spasm of Palate, Pharynx and Larynx in a Woman æt. Thirty.**

Shown by SIR FELIX SEMON, M.D. I am indebted to my colleague, Dr. Risien Russell, under whose care the patient is at present at the National Hospital for Epilepsy and Paralysis, for permission to show her to-day. In order to avoid the case being duplicated, I beg to state expressly that the same patient was demonstrated by Dr. Russell before the Neurological Society a few months ago.

The patient, a married woman, who has had six children, of whom three are dead, and one miscarriage, and whose previous and family history are unimportant, came to the hospital in January, 1900, complaining of clicking noises in her head and curious movements in her abdomen. These movements were darting in character, as if there were something alive, and passed from the stomach into the throat, head, back and limbs with great rapidity. In October, 1899, she first noticed the clicking noise in her throat, which has continued ever since. It apparently has nothing to do with the darting movements in the abdomen.

On examination, the patient is a fairly well-nourished woman, with red hair, who lies or stands with her head thrown well back, the neck and chin thrust forward, the latter generally inclined to one side or the other, and the mouth is kept slightly open. A constant slight clicking sound goes on with an average frequency of about four per second. On looking into the mouth this sound is seen to be produced by rapid vertical movements of the soft palate associated with similar movements of the floor of the mouth. These movements go on whether the jaws are open, even widely, or closed; but if the chin is depressed into its natural position with the mouth closed the noise ceases, and the movements of the floor of the mouth cease, although she says she can still feel the palate moving.

The clicking sound is audible when she speaks, between the single words, but is said to cease, as well as the movements, during sleep. The movements on the whole are rhythmical, but are occasionally



interrupted by momentary irregular intervals, hardly lasting longer than a second or two, after which they recommence.

The epiglottis makes similar movements synchronous with those of the soft palate. These movements also take place in a vertical direction. The arytenoid cartilages and the vocal cords move with equal frequency and very energetically, but their movements are from side to side, not up and down. Like those of the palate and the floor of the mouth, they are occasionally interrupted for a moment, after which they begin again. Usually they are so energetic that, during quiet respiration, the inner surfaces of the arytenoids, when the inward movement is executed, touch one another, but the oscillatory movements continue even when the glottis is wide open. During phonation everything appears normal.

Externally the mylo-hyoid can be seen and felt contracting, whilst the whole larynx is constantly being spontaneously moved a little up and down, and at the same time somewhat forwards and backwards, the movements being energetic enough to be communicated to the examining finger.

Her memory, attention and intelligence are good, but she is distinctly depressed. She has no delusions except that she is sure she has something alive inside her.

The optic discs are healthy, the muscles everywhere well developed, and the movements well performed without inco-ordination or tremor. Reflexes everywhere normal, gait normal except for the position of the head described above, and nothing abnormal found on examination of the abdomen.

Speculation as to the cause of this peculiar clonic spasm, as to its mechanism, and as to the exact localization of the focus of irritation appears, in the present state of our knowledge, idle.

It is only desired to put the case on record.

DR. LAMBERT LACK wished to call the exhibitor's attention to a paper he contributed to *THE LARYNGOSCOPE* in 1898, in which, under the title of "Pharyngeal Nystagmus and Allied Conditions of the Pharynx and Larynx," he had described several cases similar to the one now shown. The speaker and Dr. Bond had each brought a similar case before the society, although their cases were less marked and the movements were limited to the pharynx and soft palate. As far as Dr. Lack had been able he had collected in the paper referred to all the previously recorded cases of spasmodic and tremulous movements of the pharynx and larynx. He found they could be divided into two distinct classes: (1) The most severe and extensive cases, which were usually due to some gross lesion of the central nervous system, *e. g.*, cerebellar tumors, etc.; and (2) the

milder cases, which were of reflex origin and apparently due to some small local lesion, *e. g.*, post-nasal catarrh, pharyngitis sicca, etc.

DR. HERBERT TILLEY related a minor case of the same affection occurring in an adult, in which only the left side of the pharynx showed constant spasmodic movements which extended the whole length of the pharynx. The affection supervened on a carriage accident—the patient was thrown out and suffered severe concussion and bruising. The patient's speech was becoming very indistinct, knee-jerks absent, tongue tremulous, and the pupils responded to Argyll-Robertson's test. The diagnosis in the case referred to seemed to point to incipient general paralysis of the insane.

DR. WATSON WILLIAMS believed that instances of clonic pharyngeal spasm were not so very uncommon in general paralysis. The vocal cords were more rarely implicated. It seemed to him that these convulsive tics were possibly the analogue (bulbar) of psychic tics (cortical), and they were sometimes associated, for echolalia and coprolalia had been observed in association with clonic pharyngeal spasm by Kellogg.

DR. CLIFFORD BEALE called attention to the fact that the movement of both larynx and pharynx ceased directly the patient's attention was drawn to the acts of phonation or respiration. The cases which Dr. Lack had referred to differed in this respect from the one under discussion.

DR. SCANES SPICER considered the sucking noise to be produced in the larynx by the separation of the moist opposed surfaces of the arytenoid pyramids, for the sound continued unaltered when the soft palate was firmly pinned against the spine. He had an impression that Sir Felix Semon had shown a somewhat similar case before, but unilateral, and in which the orbicularis palpebrarum of the same side was affected.

MR. CRESSWELL BABER remarked that pharyngeal spasm was not uncommon; it was described as a clicking noise, and as objective tinnitus; he had not seen laryngeal spasm, or any case in which the spasm took place so rapidly.

SIR FELIX SEMON, in reply, agreed with Mr. Baber's observations. He had seen several cases of "clicking" palate, but in these the spasm was limited to the soft palate and did not affect the larynx. He was grateful to Dr. Lack for drawing his attention to his paper in *THE LARYNGOSCOPE*, which was unknown to him. He was unaware that anything like his case had been previously described, although he knew that Gerhardt had mentioned tremulous movements of the vocal cords as the only sign of a cerebral tumor pressing upon the temporal convolutions.

[*P. S.*—Since making the above statements, I have learned from Dr. Lack's very interesting paper in *THE LARYNGOSCOPE*, June, 1898, that several similar though not quite identical cases have been described.—F. S.]

**Chronic Frontal Sinus Empyema Treated by Kuhnt's Radical Operation.**

Shown by DR. HERBERT TILLEY. A woman æt. forty-six, upon whom this operation had been performed. The symptoms complained of were constant left supra-orbital headache, chronic discharge of pus, and nasal obstruction (due to polypi) upon the left side.

In performing the external operation the anterior bony wall of the sinus was completely removed, the pathological products curetted away, a large opening made into the nose, the sinus walls painted with chloride of zinc, gr. xl ad ʒj, the cavity packed with iodoform gauze and the soft parts finally sutured with catgut for the other half of the wound. The end of the gauze was led out of the inner angle of the wound.

After five days some six inches of the gauze were removed, and the remainder of it after a further interval of four days. The sinus cavity seemed quite healthy, and external pressure was now applied to the soft parts so that they were pressed on to the posterior wall of the sinus, to which they had firmly adhered, thus obliterating the cavity. The patient was in the hospital seventeen days, and there has been no discharge of pus from the nostrils since the day of operation, five weeks ago.

**Case of Cured Maxillary (Double), Ethmoidal and Frontal Sinusitis.**

Shown by DR. STCLAIR THOMSON. The patient was a gentleman æt. forty-one, who had suffered from nasal suppuration for eight years. Twice in Natal, where he lived, he had had the alveolar tooth socket drilled, and the right antrum washed out for some months. The pus soon returned when the washing was discontinued. It was found that the frontal sinus on the same (*i. e.*, right) side was affected, and in hopes that the maxillary antrum only acted as a reservoir, it was simply drained through a tooth socket, while the frontal sinus was opened from the outside. As a result of this operation pus ceased to descend from the fronto-nasal duct which was obliterated, and the exposed part of the sinus filled with cicatricial tissue. But still pus oozed from the external corner of the frontal wound, and on placing the patient again under chloroform it was found that this proceeded from a diverticulum of the main frontal sinus, with which it communicated by a narrow neck which had been overlooked at the first operation. This pocket, running outwards and backwards above the outer orbit, had been opened up

and plugged so that it healed from the bottom, just as a mastoid wound does. It was a slow process, taking three months, but there was no disfigurement.

The maxillary sinus on the same side had been treated by the Caldwell-Luc operation, and the ethmoidal cells had been curetted. The left maxillary antrum was simply drained, as it appeared to be only of recent infection from the right side.

It would be seen that the patient was not disfigured externally, as the incision was well under the eyebrow. Internally the right nasal chamber had not been interfered with physiologically by the removal of the anterior ends of the inferior and middle turbinals. There was no pus in the nose, but a little dry scab formed daily over the ethmoidal-cells opening. The patient expressed himself as struck by the recovery of the sense of general well-being. He said that he felt ten years younger than at the beginning of treatment, and now knew that he was then growing prematurely old.

SIR FELIX SEMON suggested to Dr. Tilley that it would be worth while in cases of this nature, in which the whole of the anterior wall of the frontal sinus was removed, to put in a plate either of aluminum, platinum, decalcified bone, or of ivory. Such devices acted well in other parts, and why should they not in the frontal sinus region? Disfiguration might thereby be lessened considerably, or even be totally avoided.

DR. WATSON WILLIAMS remarked that at the Portsmouth meeting of the British Medical Association in 1899 reports of two cases of diffuse suppurative osteitis, following operations for frontal sinus empyema, were reported. He desired the opinion of members of the Society as to the possibility of increasing the risk of such an occurrence by putting pressure upon the frontal sinuses, after opening, curetting and cleaning them, as in the radical cure.

MR. CRESSWELL BABER said it seemed as if surgeons were now coming back to the operation of Kuhnt, who removed the whole of the anterior wall of the frontal sinus. He himself had shown at the Society a most refractory case, in which cure had resulted from resorting to this radical operation after all other measures had failed. The depression was not marked in his case, and the results were satisfactory. He asked, was it advisable to make a large opening into the nose or not? In the radical operation the discharge escaped on to the surface, and the sinus was filled with healthy granulation tissue. He took it for granted that the anterior part of the middle turbinate was removed previous to operation on the frontal sinus.

DR. SCANES SPICER thought that in both of these cases he would himself have removed much more completely the front part of the middle turbinated and anterior ethmoidal cells before operating externally on the frontal sinus. He had seen many cases presenting all the symptoms and signs of frontal empyema get well after this

procedure without the need of an external operation; and had found that even if this did not happen, the drainage of the frontal sinus into the nose was much facilitated by such free removal. While acknowledging the necessity for complete resection of the anterior wall in rare cases, he dreaded the deformity resulting, and thought that clearing out the anterior ethmoidal region well would render it still less often necessary.

DR. STCLAIR THOMSON, in reply, said that the anterior half of the middle turbinate was removed before the operation on the frontal sinus. The suggestion of Mr. Baber was one to be considered—whether it was not much more desirable to obliterate the fronto-nasal duct, and cut off all communication with the nose. He started in this case with the Ogston-Caldwell-Luc operation on the frontal sinus, and passed his little finger up the nose into the sinus. During the treatment he changed his mind, and succeeded, by exerting a little pressure, in cutting off the frontal sinus from the nose. The patient ran no risk of being reinfected because he now had no sinus. The idea of Sir Felix Semon was worthy of attention. He had a patient who told him that the bank clerk next to him had a platinum plate in his forehead, and feels very well. Other substances besides platinum might be used. In the *Medical Press and Circular* of recent date solidified vaseline was suggested for this purpose.

In answer to various questions DR. TILLEY said that he would only recommend so complete an operation in exceptional cases, because of the deformity produced. In some seven cases which he had previously shown to the Society equally good results had been attained with no deformity, and in these instances far less of the anterior wall had been removed. He had performed Kuhnt's operation in this case really to satisfy himself as to how much deformity it produced. He considered that there was very little, in fact no risk of septic osteomyelitis ensuing if the external wound was not sewn up at the close of the operation. To avoid the complication it was also wise to make a large opening into the nose, which had the additional advantage of breaking down the anterior ethmoidal cells, which were always diseased, and which, if left alone, were very liable to re infect the sinus, however carefully the latter was treated by curetting and disinfection.

#### **Case of Epithelioma of the Tonsil and Glands in the Neck; Operation; Recovery.**

Shown by DR. LAMBERT LACK. The patient, a man æt. fifty, came under my care one month ago, complaining of a painful lump in the throat. An ulcer was seen in the position of the right tonsil, about the size of a florin. It spread on to the posterior pillar of the fauces, slightly on to the lateral wall of the pharynx, and downwards to within a quarter of an inch of the tongue. The edges of the growth were hard and everted. No enlarged glands could be felt in the neck. As the man was willing to be operated on, and the case



appeared to be an eminently suitable one, a piece of the growth was at once removed for microscopic examination. The sections showed the growth to be an undoubted epithelioma.

The operation that was performed may be divided into four stages:

1. An incision was made along the anterior border of the sternomastoid, and the large vessels in the anterior triangle freely exposed. Some enlarged glands were found, and, together with the fascia over the vessels, were cleanly cut away. Ligatures were placed on the external carotid and some of its branches, but were not tightened.
2. A pad of gauze was packed in between the carotids and the lateral wall of the pharynx.
3. Tracheotomy was performed, and a Hahn's cannula inserted.
4. The cheek was slit back from the angle of the mouth to the ramus of the jaw. A large sponge, with tape attached, was pushed into the larynx.
5. The pillars of the fauces were cut through with scissors, and the growth partly cut out with scissors and partly separated from the lateral pharyngeal wall by dissection with the finger. The wound in the mouth remained separated from the wound in the neck by a thin layer of fascia. There was no bleeding to speak of.

The temporary ligatures on the carotids was removed, and the wound in the neck and cheek sewn up. The tracheotomy tube was retained until the following day. After twenty-four hours the patient was able to swallow, and his further progress was uneventful. The wounds in the neck and cheek healed by first intention. The patient was allowed up on the seventh day, and left the hospital on the fourteenth day.

The patient was brought forward to illustrate the excellent immediate result that can be obtained by such an apparently severe procedure. The whole safety of the patient depends upon the wound in the neck not communicating with, and being infected from, the wound in the mouth. The danger of hemorrhage is entirely avoided by the temporary ligature of the vessels and the tracheotomy. The case also illustrates again the fact that even considerably enlarged glands in the neck may not be palpable, and the consequent necessity for an incision in the neck in every operation.

The PRESIDENT thought they would all agree in congratulating Dr. Lack upon the success which had attended his case. It was a perfect result, and one could not wish for a better either with regard to the completeness of the removal or the rapidity of the healing.

**Bilateral Webbing of the Fauces.**

Shown by DR. HENRY J. DAVIS. This is a woman, æt. fifty-two, with bilateral webbing of the fauces. The webbing may be entirely the result of old ulceration, but the symmetrical appearance of these fine bands of tissue would seem to indicate cicatrization following ulceration of some congenital malformation of the faucial pillars, *e. g.*, an accessory palato-pharyngeus.

Since childhood speech has been indifferent, and she had "a sore throat for ten years at one time," which favors this supposition. She is suffering from tinnitus and deafness.

The PRESIDENT had no doubt at all that this was a case of ulceration of scarlatinal origin. He had seen a similar case following small pox, but scarlet fever was the most frequent cause. He did not think for one moment that its origin was congenital.

DR. STCLAIR THOMSON had seen a similar case, which was even and regular, in which he could discover no history of syphilis or scarlatina. He had discussed the case with Mr. Bland-Sutton, who informed him that this defect did not correspond to any developmental defect.

DR. FITZGERALD POWELL had shown a somewhat similar case to the Society some time ago. At the time he thought the abnormality must be developmental in character, the posterior pillars of the fauces being attached low down to the posterior wall of the pharynx on both sides, each being very regular in outlines. The trend of the opinion of the Society on that occasion was that it was probably the result of scarlatinal or other ulceration. He thought Dr. Davis' case was due to this cause.

SIR FELIX SEMON, with great respect for Mr. Bland-Sutton's opinion, begged to differ from the statement attributed to that authority. He thought that such cases might be developmentally explained; there was no doubt of the existence of quite a number of cases with slits in the anterior pillars of the fauces, absolutely symmetrical, without any ulcerative agency to account for their presence. He promised to bring before the Society a drawing of a case of his own bearing on that point, and he remembered that similar cases had been described by Professor Lefferts. With regard to Dr. Davis' case he would be probably found to be in a great minority; but he agreed with Dr. Davis that this case very likely represented a mixture between arrested development and acquired ulceration.

DR. WATSON WILLIAMS' impression was that this was a mixed case, in which there had been nine or ten years ago a sore throat with an ulcerative process going on; but the symmetrical condition of the faucial webbing suggested a congenital origin. The patient said she had not noticed it before. He himself had had a patient brought before his notice who did not know he had anything the matter with his throat, but he was found to have almost absolutely



symmetrical webbing on either side of the fauces, very similar to this patient; in that case the condition was of congenital origin. He promised to show the Society a drawing of this case.

DR. CLIFFORD BEALE thought it was a matter of considerable interest to determine whether these cases were due to scarlatinal poison in the first instance. In favor of such a view was the distribution of the splitting of the palate, which followed the lines of inflammation of the soft palate, so often seen at the onset of scarlatina. Against the theory, however, was the fact that, although in the course of hospital practice, one may examine a very large number of throats which have been affected at some time with scarlet fever, such clefts, apart from cicatricial contraction, were rare.

DR. HERBERT TILLEY was of opinion that the pharyngeal appearances were the result of ulceration, and most probably post-scarlatinal in origin. He had recently seen an almost identical case in a lady who had consulted him for deafness, which was also post-scarlatinal in origin.

MR. BABER had no doubt that it was due to previous ulceration in the throat.

DR. DUNDAS GRANT suggested that a drawing should be made, because the case presented its features in a remarkably striking way. It seemed to him that the congenital condition was represented on the right side of the throat, but on the left side that there had been an abscess contemporaneously with the acute suppurative otitis due to scarlet fever, which she had as a child. He had seen in the fever hospitals several cases among children where such a condition existed as that on the tonsil of the left side produced by scarlatinal peritonsillar abscess.

DR. DAVIS said the patient had always had some impediment of the speech and a periodical sore throat; one such "had lasted for ten years about fifteen years ago." What she complained of was tinnitus and internal and middle-ear deafness. He would try and get a drawing.

#### **Case of Enlarged Thyroid Cured by Iodide of Potassium.**

Shown by DR. DAVIS. This young woman came under my care last June, at the London Throat Hospital, with a large pulsating asymmetrical swelling of the thyroid, causing dyspnea, stridor, and considerable functional derangement; a very rapid pulse but only slight proptosis were present. The "tumor had been growing for eight years, but had suddenly grown rapidly, getting larger whenever she had a cold."

The patient asked for time to consider operation, which at that time seemed the only treatment. She was treated with five grains of potass. iod., five grains of ferri et ammon. cit. in a mixture; and she was ordered to rub equal parts of ung. potass. iod. and ung. hydrarg. biniodidi into the neck every night. She also inhaled the vapor of iodine crystals in a saucer.

In six weeks the tumor disappeared, all other symptoms rapidly subsiding. The iodide treatment was left off four months ago, and the thyroid showed signs of swelling, which again vanished under the same treatment.

The girl, beyond being slightly anemic, is now perfectly well.

MR. SPENCER said he should not use the word "cure," although good results, as in this case, did very often follow treatment by iodide of potassium and thyroid tabloids; but recurrence happened sooner or later, and surgery ultimately had to be relied on for the treatment of the masses containing cysts, etc. The tumors had a tendency to subside and come back, especially in young patients, such as that of Dr. Davis.

DR. DAVIS said he did not literally mean "cure," which perhaps was not quite correct. All symptoms had disappeared under iodide, then recurred; and under a further course of iodide and ointment (biniodide) had again disappeared. The patient was now under no treatment. There was a small cystic swelling on the right side, which was hardly noticeable. When he first saw the patient, in June, the goitre was a very large one.

DR. STCLAIR THOMSON said that in decided thyroid tumors medicinal treatment was of little use. He had lately had the opportunity of discussing the subject with Professor Kocher, of Berne, whose experience in the question was unsurpassed, and who said that patients must make up their minds between putting up with the inconvenience of the growth or submit to the knife. He preferred cocaine as an anesthetic.

DR. FITZGERALD POWELL said in his experience medicinal treatment by iodides and iron was certainly of great use. He had had a number of cases of cystic goitre in which the cysts had been reduced, but this was not always the case, and then operation became necessary. The iron was largely answerable for the improvement in some of the cases, especially those occurring in young women with menstrual disorders and anemia.

DR. BENNETT supported the last speaker. He believed that permanent benefit frequently followed the use of iodides. One case especially occurred to him, in which the patient consulted a leading London specialist, who advised operation. The patient afterwards desired to try medical treatment first, and he had given iodides with excellent result. The patient had remained free from the trouble now for several years.

DR. BALL said that formerly he was in the habit of treating those cases with iodides internally and iodine preparations externally, and that he often got apparent cures. For the last seven or eight years he had completely abstained from employing any special treatment, and he had got precisely the same results. Some cases improved spontaneously, as they did formerly under iodide treatment. He had absolutely no belief in the efficacy of any specific medicinal treatment of goitre.

DR. DONELAN remarked that medicinal treatment produced no permanent benefit. It caused a contraction of the gland, which might be compared to the effect of the injections which were formerly so much in vogue. The gland diminished, and remained small for a considerable time, and treatment was abandoned; but later the growth increased more rapidly than previously. These cases, in his opinion, did as well without as with medicinal treatment; the severe cases all eventually came into the hands of the operating surgeon.

SIR FELIX SEMON called to mind that Sir Morell Mackenzie once told him that he had injected iodine in the case of a patient who had previously asked him if there was any danger in it. Sir Morell Mackenzie, speaking from the experience of hundreds of cases, had replied decidedly in the negative. The patient thereupon consented, but died five minutes after the injection in the consulting room. Speaking from twenty-five years' experience, he could say that he had cured a good many cases permanently by iodide.

DR. SCANES SPICER wished to emphasize the view that many of these thyroid enlargements were inflammatory in origin, being attended with local pain, tenderness, and rise in temperature. Such symptoms soon disappeared on rubbing in some mild preparation of iodine, even if they were accompanied by some of the signs of Graves' disease, such as tachycardia, palpitation, and exophthalmos. He had no doubt they sometimes went away by themselves, as Dr. Ball had observed.

SIR FELIX SEMON wished to define his previous statement a little more accurately. His experience was that soft and absolutely parenchymatous goitres, especially when occurring in young girls, were favorable for the iodide treatment. With iodine and iodide of potassium—internally and externally—in the form of ointment and mixtures he had effected a good many cures. In cases where cysts or fibroid elements developed, the medicinal treatment, needless to say, was not nearly so successful. In the case under discussion he could not see any inflammatory action whatever.

DR. BRONNER said many cases which had resisted iodide of potassium were controlled by tabloids of iodothyron.

DR. WATSON WILLIAMS mentioned a case of goitre which had been cured many years previously by purely medicinal treatment at the hands of Sir Felix Semon. There was now not a vestige of the tumor.

The PRESIDENT referred to the injection of iodine. At one time he had used it extensively, but entirely abandoned it, owing to the death of a well-developed young guardsman, who died within a minute of the injection.

#### **A Case of Swelling of Left Cheek and Eyelid.**

Shown by DR. DAVIS. For two years this patient, a female æt. twenty-three, has had a puffiness of the left lower eyelid, with swelling over the root of the nose and left upper jaw. On the sup-

position that she had antral disease the antrum was opened through the socket of an extracted molar. She wore a plug, and was under treatment for nine months. No disease was found, and nothing in the nose—beyond some slight enlargement of the middle turbinals—can be found to account for the disease. The nasal duct is free. The swelling is worse in the morning and late at night, but varies in the course of the day, and it appears to me to be lymphatic in nature. Her condition is unaltered by treatment. There is no albumen in the urine, and the general health is good. It may be a case of angioneurotic edema.

DR. BRONNER said these cases were fairly common, but seen more by ophthalmic surgeons. They always occurred in young women. Their nature was unknown, and they were generally unilateral.

DR. SCANES SPICER had seen the condition associated with ethmoidal cell suppuration.

DR. WATSON WILLIAMS regarded it as a case of recurrent erysipelas. It occurred in fairly definite attacks at the outset, followed by periods of quiescence, and leaving more and more persistent thickening. He had had two or three cases, but did not know what to do for their treatment.

MR. DE SANTI had shown a case to the Society in a similar condition, except that it was more extensive; it resembled the description given by Dr. Watson Williams. His case was apparently due to a mosquito bite. He considered the condition was one of lymphatic edema, and probably due to the specific cocci of cutaneous erysipelas.

DR. DAVIS said the swelling had gradually increased eight years, and had then suddenly grown more rapidly. After taking iodide internally, and ung. pot. iod. and ung. hyd. biniod. externally, for about a month, it began to disappear rapidly.

#### **Recurrent Angiofibroma Involving Ventricular Bands and Vocal Cords.**

Shown by DR. FURNISS POTTER. The patient, a man æt. forty-two, came under observation in the summer of 1899, complaining of hoarseness, which had come on gradually. On laryngoscopic examination the anterior third of the glottic space was seen to be filled, and the anterior thirds of both cords were obscured by (what appeared to be) a trilobed tumor, which on further examination with probe, and on subsequent removal, was found to consist of two parts, one attached to the left ventricular band—on microscopic examination reported as simple papilloma—the other attached chiefly to the right ventricular band, and involving also the right vocal cord, the upper surface of which presented a ragged, torn-looking surface.\*

\* A section of this was exhibited at this Society, November, 1899, and was reported on by the Morbid Growths Committee as angiofibroma.

The case has been under constant observation, and has continued to recur, notwithstanding that several removals have from time to time been effected with snare and forceps whenever the growth has become sufficiently protruding to be seized with instruments.

The surface now involved is more extensive than when first seen, the anterior commissure and left ventricular band and cord (?) being considerably affected.

During the last few months the patient states that he has had several attacks of hemorrhage, on which occasions he has coughed up about a teaspoonful of blood. He suffers from much vocal disability, which seriously interferes with his occupation—a builder's foreman—which necessitates much use of the voice.

He would be glad to have any suggestions for further treatment other than what had been pursued.

The PRESIDENT would call this case by another and more grave name, *i. e.*, malignant disease of the larynx.

DR. CLIFFORD BEALE commented on the free movement of the cords in the case, and asked how far one was justified in ignoring the rule that cancerous growths of the larynx usually produced impaired movements. The appearance of the growth itself certainly suggested malignant disease.

SIR FELIX SEMON said he had defined his position with regard to the question of mobility of the affected vocal cord in malignant disease of the larynx so often and so precisely before, that he was sorry there could still be any doubt on that point. It depended entirely on the depth of the infiltration whether or not there was any impairment of movement. If the disease was somewhat superficial there might be free movement, even though the affection be already rather extensive; whilst, on the other hand, in a case of deep infiltration there might already be defective movement, though the actual outgrowth was still small. The question, therefore, stood thus: the absence of defective movement was no counterproof to the existence of malignant disease, whilst its presence in cases where it was doubtful whether a growth was innocent or malignant was a valuable aid to diagnosis.

MR. WAGGETT said Dr. Potter asked him to get the opinion of the Society whether it was desirable to do a thyrotomy, in order to see what the condition really was.

MR. SCANES SPICER inquired if the patient had had a course of iodide of potassium.

MR. DE SANTI said the sooner thyrotomy was done the better. He advised an exploratory thyrotomy.

#### **Recurring Nasal Polypi.**

Shown by MR. DE SANTI. A girl, *æt.* eighteen, suffering from persistently recurring nasal polypi. She had been under constant

treatment at various hospitals for four and a half years before coming under his care at the Westminster. The polypi had been removed innumerable times by means of the snare.

He found large masses of toughish polypi in both nostrils, occupying the whole of the cavities; there was marked "frog face;" microscopically they consisted of mucous and fibrous tissue. He took the patient into hospital, and under a general anesthetic turned up the nose by dividing the reflection of the mucous membrane of the lower lip and gums, and thus got at the polypi; these were removed with the aid of suitable forceps and curetting. The patient remained free from the growths for some six to seven months; they then recurred, and subsequently another free removal under an anesthetic was carried out; there was immunity from the growths for eight months. Now the patient is again in much the same condition as before. From the general appearance of the polypi and the free suppuration going on, Mr. de Santi considered there was accessory sinus suppuration. In connection with the last meeting of the Society, when the treatment of nasal polypi was under consideration, he brought the case forward as showing the results of the different methods of treatment and their failure. He was anxious to know if Dr. Lack's method of operation would be generally recommended, though one of Mr. de Santi's two operations consisted, in his opinion, in very much the same technique as Dr. Lack's.

DR. HERBERT TILLEY had no doubt but that the case was one of chronic suppurative inflammation of the accessory sinuses. He had proved this as regards the frontal sinus, because the withdrawal of a probe passed into it was followed by a free flow of pus. Unless these accessory cavities were efficiently dealt with the polypi would continue to recur as they had done formerly. The breadth of the upper portion of the patient's nose was very suggestive of chronic ethmoiditis.

MR. DE SANTI asked Dr. Tilley if he was of opinion that the nasal polypi were secondary to frontal sinus suppuration in his case.

DR. TILLEY said emphatically that this was his view.

#### **Growth of Right Cord in a Man æt. Thirty-Five. (Patient and Specimen.)**

Shown by DR. W. H. KELSON. Patient was shown at the end of last summer session, and, as there was some difference of opinion about the case, the President had requested that it be shown again, but as the patient is a teacher the growth was removed from the right vocal cord in August. The microscope showed it to be a papilloma.



DR. FITZGERALD POWELL remembered having seen this case when it was shown to the Society at a previous meeting. There still appeared to be a small portion of growth remaining below the anterior commissure which might have to be removed.

DR. KELSON thought there might be a small papilloma below the cord on the right side. The patient had recovered his voice, and had passed an examination in singing, and so he thought it better to leave it alone at present.

#### **Lupus of the Pharynx.**

Shown by Mr. R. G. JOHNSON for Mr. RICHARD LAKE. This patient states she has suffered from "ulcerated sore throat" with dysphagia since November, 1899. There is no history of phthisis or of syphilis, congenital or acquired.

In April, 1900, the tonsils were removed, immediately after which her voice became affected.

At the present time there are well-marked signs of phthisis at the left apex.

On examination the whole of the uvula, both posterior pillars of the fauces, the left tonsil, a small part of the soft palate to the left of the uvula, the surface of the lingual tonsil, what remains of the epiglottis, the ary-epiglottidean folds, with the arytenoids and ventricular bands, are seen to be involved in a lupoid process, which is, however, in a fairly stationary condition.

DR. DAVIS had seen the case in the Middlesex Hospital; a piece was removed from the tonsil, examined, and pronounced to be lupus.

#### **Case of Bilateral Abductor Paralysis.**

Shown by Dr. J. B. BALL. A young man, æt. twenty-four, admitted recently to the West London Hospital for a hematocele of the testicle. Surgical interference being considered desirable, ether was administered. While under ether, and before the operation was begun, his breathing stopped and he became cyanosed. Artificial respiration was performed, and air began to enter with loud stridor. Artificial respiration was kept up for about ten minutes, but the stridulous breathing continued for three-quarters of an hour. The next day Dr. Ball was asked to examine the larynx. The condition present is that of bilateral abductor paralysis. It is not quite typical, however. There is some obliquity of the line of the glottis and some asymmetry of the cords. The history points to the condition having existed for a very long period, if, indeed, it was not congenital. The patient states that, as long as he can remember, his breathing was noisy and difficult on the least exertion. His

mother states that as an infant his breathing was always troublesome and frequently crowing in character, and that when he was born he was not expected to live owing to his difficult breathing. The knee-jerks are present, and there is no sign of disease in the chest. Patient has not had syphilis.

MR. SPENCER said it was a very curious-looking larynx. One cord was completely paralyzed. The left cord, however, retained a good deal of movement. It might be congenital or syphilitic in origin. The question was: What would happen to the boy? Was it safe to allow it to go on as it was? There was not much room there, and with a little inflammation he might soon get into a dangerous condition.

DR. WATSON WILLIAMS thought the right vocal cord appeared quite fixed, and there was certainly movement of the left cord. He suggested that some old inflammatory mischief caused fixation of the right cord, and that the present condition of the left, viz., abductor paralysis, was due to some more recently developed affection. The increased pulse rate, ninety-six a minute, suggested the existence of a bulbar lesion.

SIR FELIX SEMON said he had laid it down many years ago as a rule that in every case of bilateral abductor paralysis, if medical or surgical treatment did not succeed in actually restoring the activity of the abductors, it was the duty of the laryngologist to perform tracheotomy as a prophylactic measure and rid the patient of the risk of suffocation. Since then, however, he had seen several cases in which fairly severe bilateral abductor paralysis had existed for many years with impunity. He reminded the Society that he himself had shown to it two such cases a few years ago, one of which he had already shown on the occasion of the International Medical Congress of 1881, *i. e.*, fully twelve years before his last demonstration. This had made him somewhat doubtful as to whether his previous dogmatism was justified; although, on the other hand, several cases had been recorded in which the non-observance of his rule had led to sudden death by asphyxia. His course now was to tell patients plainly how matters stood and leave them to decide. Certainly it did not increase the amenities of life to go about for years with a tracheotomy tube. On the other hand, an attack of simple laryngeal catarrh might put the life of the patient in danger at any time, as actually happened in the case from which he had deducted his rule.

DR. WATSON WILLIAMS mentioned a case *apropos* of Sir Felix Semon's remarks. The patient was brought to the Royal Infirmary at Bristol, and had marked inspiratory dyspnea with stridor. On examining the larynx he found well-marked bilateral abductor paralysis. No reason for it could be discovered. Bearing in mind the dictum laid down by Sir Felix Semon, he was tracheotomized. He was able to breathe very comfortably, and in the course of a fortnight, owing to the left thyro-arytenoideus internus having become paralyzed, he was able to do without the tube.

DR. BRONNER recommended the use of large intubation tubes in cases of abductor paralysis with difficulty in breathing. The tube should be worn for a few hours daily, or constantly if possible, for a few weeks; this in many cases permanently relieved the dyspnea.

THE PRESIDENT: It was a very difficult question to decide what should be done. There was a well-known member of Parliament some ten or eleven years ago, with more or less mechanical fixation of the cords; adduction was good, but abduction very incomplete. He was able to speak in the House. The condition, dating from small-pox, had existed upwards of thirty years: He caught a slight cold and died from laryngitis. Probably if something had been done his life would have been spared.

#### **Specimen of Cyst. ? Dermoid:**

Shown by DR. FITZGERALD POWELL. The specimen shown was removed from the floor of the mouth of a girl æt. sixteen years. The swelling which it caused was first noticed thirteen months ago, and had been gradually increasing in size.

When first seen I found, on examination, a considerable rounded swelling, extending from below the symphysis to just above the hyoid bone; it was movable, soft and fluctuating, and on looking into the mouth it was seen to push the floor upwards, and could be felt well back under the tongue; it had somewhat the appearance of a ranula, but was more regular in shape, and occupied both sides of the frænum linguæ.

I removed the cyst by a median incision through the skin, extending from just below the symphysis to just above the hyoid. The superficial structures were carefully divided, bleeding points secured, when the white glistening cyst wall was exposed, and by sweeping the finger round the growth it was easily enucleated and brought out. The wound healed by first intention, and little scar was left.

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**SAN FRANCISCO SOCIETY OF EYE, EAR, NOSE AND  
THROAT SURGEONS.**

Regular Meeting January 24, 1901.

Henry L. Wagner, M.D., President.

DR. F. B. EATON presented a specimen of  
**Myxo-Fibroma of Nose and Naso-Pharynx.**

He stated that it was the largest one he had ever heard of; but supposed there are perhaps others of the kind that are larger. The patient was a young fellow about twenty-three years of age. He was emaciated when seen at the hospital, and on opening the mouth this large tumor was seen extending down behind the pharynx, and at times hung down over the epiglottis. It was impossible to get the finger above the palate without using great force, the tumor filling completely the naso-pharynx and pharynx. Dr. Eaton first attempted to cut the tumor off with snare armed with No. 5 piano wire. He soon broke the wire. However, he cut off a piece about the size of the present specimen, and afterwards in his office, with a galvano-cautery snare, snared out the mass presented. This left the base, which occupied a portion of the roof of the naso-pharynx, and a portion of the middle turbinated near its posterior end, and a portion of the middle meatus of the nose, comprising about one-third of the middle turbinated bone on its under side.

A cautery electrode strong enough for the purpose was passed into the fossa meeting it with forefinger above palate, and thus the base burned little by little with moderate hemorrhage. The young man improved very much. He gained some twenty pound weight; but he returned a few months later having a return of the growth in his nose; that in the nasal pharynx never grew again. It was burned again in the same way. There was now always considerable hemorrhage. Patient was twenty-three years of age and Dr. Eaton was working to keep him alive until he was over twenty-five. This he did, as it is stated on the authority of Fletcher Ingals that in case of myxo-fibroma, if the patients could be kept alive until they were over twenty-five, there was a tendency to spontaneous arrest of the growth. However, the patient fell into the hands of a licensed quack. He laid his nose open in the so-called heroic way and attempted to extirpate the tumor, and the patient promptly died.

## DISCUSSION.

DR. REDMOND PAYNE said he had exhibited a similar specimen at the last meeting, which hung in the naso-pharynx and reached the isthmus of the pharynx; it was somewhat elastic so that it would move; and was some five inches in length, when it was stretched out. It was the largest that he had ever seen. Dr. Eaton's specimen is certainly an extraordinarily large one. The statement that these cases have a tendency to spontaneously atrophy after the patient reaches the age of twenty-five seemed to Dr. Payne a little curious. He recalled only lately a case, a very large tumor in the naso-pharynx, probably one-third the size of Dr. Eaton's specimen. The man was thirty-two. It has shown no tendency to atrophy at all.

The PRESIDENT said that according to his experience he did not think that there is any rule that a tumor atrophies after a certain age. Dr. Eaton (closing discussion) said that he had made no statement that a tumor has a tendency to *atrophy* after patient reaches the age of twenty-five; but that after that age a nasal fibro-myxoma may not grow any more. There is an arrest of growth. This is quoted on the authority of Fletcher Ingals. Ingals does not say that a tumor atrophies, but that after the age of twenty-five these tumors may not develop further, but become stationary.

The PRESIDENT presented some cultures which he had taken from the ear and throat of a little child two and one-half years old, to which he was called in consultation. The little one showed at first an acute inflammation of the middle ear. He waited under expectant treatment for forty-eight hours, and then made a paracentesis of the drum. For a few hours no serous fluid was discharged from the middle ear; later some bloody serum did appear. The temperature was  $102\frac{1}{2}^{\circ}$  at the beginning. On the third day the ear was nearly free of any discharge, and the temperature normal.

Forty-eight hours after this a fever of  $104^{\circ}$  set in, and as the ear did not show any symptoms, the throat was examined carefully. On the soft palate, and on the right tonsil, a white patch about as large as a middle size bean was found. Fearing these patches might be diphtheritic, a bacteriological examination was made, which revealed a staphylococcus pyogenes albus, and also Pfeiffer's bacterium. We should be careful of our diagnosis before a bacteriological examination is made. Five days after this the child was perfectly well.

The annual election of officers being in order, the following were elected: President, Dr. F. B. Eaton; first vice-president, Dr. L. C. Deane; second vice-president, Dr. R. D. Cohn; secretary, Dr. M. W. Frederick; treasurer and librarian, Dr. G. W. Merritt; members of the executive committee, Drs. E. J. Overend and G. P. Pond.

REGULAR MEETING, FEBRUARY 21, 1901.

F. B. Eaton, M.D., President, in the chair.

DR. ROBERT D. COHN presented a case of

**Luxation of the Anterior Inferior End of the Quadrangular Nasal Cartilage**

In a girl of nine. Symmetrical with the convexity in the left nostril was a corresponding depression in the opposite side. By inserting the index fingers reposition was easy, so that there could be no doubt as to the diagnosis. Relief was sought purely for cosmetic reasons.

As these cases are met with infrequently, and are passed over very lightly, if referred to at all in the text-books, the experience of those members present, especially as regards operative procedures, would be of value.

DISCUSSION.

DR. A. B. MCKEE said he thought the operation appears rather more formidable than it really is, and that he thought we get better results with operating. He made an incision in the mucous membrane and pushed it over to one side and simply pared off some of the soft parts. He did not think it necessary to put in a suture, but in some cases, perhaps, it would be advisable. The operation is a trifling thing, but the improvement is very marked.

DR. H. L. WAGNER said that what Dr. McKee just referred to he had done in every case with success—and successfully for the simple reason that if the projecting portion is dissected we will save the mucous membrane and just dissect off enough to make a covering. Burnett in his book refers to the number of times he has performed this operation, and gives a picture and description of the operation. Dr. Wagner had operated with less success and with a great deal of disturbance on patients where he found the septum thin and infractible at that portion, as the cartilaginous part of the septum may break, as in the case Dr. McKee just referred to. If we split off this portion (and it is very easy because cartilage can be cut like a piece of cheese), in nearly all cases no suture need be put in, and the cut heals up very quickly; in about two and one-half days is entirely well.



## REGULAR MEETING, MARCH 21, 1901.

Dr. F. B. Eaton, President, in the Chair.

Dr. McKee read an essay on

**Suppurative Middle Ear Diseases, Their Complications and Operations.** This paper will appear in a subsequent issue of THE LARYNGOSCOPE.

## DISCUSSION.

Dr. MARTIN in opening the discussion said that the field covered by Dr. McKee is so large that it was a difficult matter to decide just what points to pick out for discussion. The first case that Dr. McKee spoke of, which was a case of sinus thrombosis, reminded him of a similar case he had some time ago. Dr. McKee speaks of seeing it in a much better light now than at the time of making the operation. This case Dr. Martin would speak of was not in his mind a case of sinus thrombosis pyemia. He was called in this case and found patient with very high temperature, about  $104^{\circ}$  to  $105^{\circ}$ , great protuberance over the mastoid. He concluded to operate at once, which he did by gaslight with one assistant. He thought by freeing the pus he would relieve the trouble. Temperature was lower next morning. Did not go into the middle ear to clean it out thoroughly. Could not detect much granular tissue there. Two or three days later temperature rose from  $105^{\circ}$  to  $106^{\circ}$ . He opened up the wound again and called in a consultant who tried the pulse and advised giving a cathartic and temperature promptly fell next morning, and Dr. Martin was congratulating himself that it was a case of stomach trouble. However, the temperature did not stay down; went up again. He finally concluded on the third day to go in and curette it out thoroughly, which he did and the temperature never went up again. There was a small granular mass in the middle ear which accounted for this trouble.

The other cases are cases that we see continually. Dr. Martin had never had but one case of sinus thrombosis, and that he did not operate on. This case was of an engineer where the pus had burst out above the ear; it had burrowed out above the cartilage and he opened it above the ear at this point. Kept urging him all the time to have the operation performed, but he never got around to it, saying that he could not find a substitute. One day Dr. Martin was telephoned for. He took two assistants with him and went out to the house. Found the man had had to come from work. He was told that the only chance was to have the operation performed.

Called his wife in and stated the conditions to her and wanted him to have the operation. She said she would wait a few days. He was taken to the Electric Hospital three days later and operated on and left on the table.

DR. A. BARKAN said that several points in Dr. McKee's paper had impressed him. He was inclined to think most of the blame in serious cases where there was hesitation and faulty interpretation, lies on the shoulders of the consultant being a surgeon, or still worse, being the family physician. There is always something wrong with the bowels or some excuse found here and there, whereas if we were to approach the case alone we would say this is clearly a case of serious importance, and affecting the brain. He was strongly reminded of a number of cases, but would mention only one.

One Saturday afternoon a German brought his wife and little girl. The child was about twelve years of age, and while she was even crossing the entrance to the office Dr. Barkan was struck immediately by the pale, fevered appearance of the child. On removing the handkerchief from the child's head he found a mountain of pus running out from her ear, such as he had never seen. Feeling her pulse he inquired how long she had been affected, and told them they had a very serious case and tried to get her to the hospital, but they had a comfortable home and would not have her taken there. He told the mother and father that he was quite anxious about the case. The next morning he went over to the house feeling quite anxious and had made up his mind unless the child was better that morning he would open the mastoid anyway and look in. To his astonishment he found the child greatly improved. Simply cleaning the ear had done a great deal of good. The child was cheerful. He did not see his way clear that day to perform the operation, and on Monday called again and found the child much worse. Temperature had gone up. He waited a couple of hours for the physician they wished him to meet in consultation and when he came at once a history of bowel complaint was sprung, and the whole manner of the man impressed him that he was afraid of losing the case. Even though he did not want to interfere with his case, he felt it his duty, however, to tell the parents that the case was very serious and that he wished to have an immediate consultation with a fellow specialist. That was the last he saw of the child. He was never called again. In about six weeks the father called at the office and asked the amount of the bill. The face of the man showed that he had lost his child, and that he knew he had made a very great mistake in leaving the case to the family physician.

We must not allow ourselves to be guided too much by consultants. If we think we are right, we should go ahead.

The second remark was with regard to cutting off of polypi. The case that Dr. McKee referred to he had seen, *and it has been a warning* to him to be very sure they are not those that spring up from the upper and posterior wall of the canal and from the roof of the tympanum, the most dangerous spot. These are the ones that MacEwan refers to in his warning, and those mistakes are very easily made, and we will do well to leave these alone unless we are sure what they are. He thought there was another point of interest; the meeting of the dura or sinus on the way to the antrum. Was it the dura or the sinus?

DR. MCKEE: The dura. It is higher up.

DR. BARKAN said he had had several cases of that kind, and in every case had simply gone ahead, cautiously removed the posterior wall and working carefully had reached the antrum.

DR. MCKEE closing the discussion said one point in regard to a case he mentioned, was that the man did not feel inconvenienced in any way with his work. In the operation he was not sure the mass uncovered was the dura. The assistant, who was a family practitioner, kept leaning over his shoulder and asking him if he did not think he was getting in pretty deep, etc. He could not make out any indication of the sinus at all. He made up his mind it was the dura. He has uncovered the sinus several times and has always recognized it.

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It is our purpose to furnish in this Department a complete and reliable record of the world's current literature of Rhinology, Laryngology and Otology.

All papers marked (\*) will be published in abstract in THE LARYNGOSCOPE.

Authors noting an omission of their papers will confer a favor by informing the Editor.

### I. NOSE AND NASO-PHARYNX.

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## SELECTED ABSTRACTS.

Edited by

FAYETTE C. EWING, M.D., St. Louis,

with the collaboration of the

EDITORIAL STAFF.

### I. NOSE AND NASO-PHARYNX.

**Galvanism in Nasal Hypertrophy**—JOHN B. GARRISON (New York)  
—*Journal of Electro-Therapeutics*, March, 1901.

Under the title "Galvanism," the author describes a method of treating hypertrophic rhinitis, similar to that described by Dr. W. Scheppegrell, in the *Annals of Ophthalmology and Otology*, April, 1896, under the title "Interstitial Electrolysis." The author uses three to five milliamperes by means of the mono-polar method, and claims good results from its use. W. SCHEPPGRELL.

### II. MOUTH AND PHARYNX.

**Recrudescing Angina Due to Friedländer's Bacillus**—EMIL MAYER  
—*N. Y. Med. Journ.*, December 22, 1900.

Friedländer's bacillus is frequently found in the mucous membrane of the bronchial tubes. Its first mention in pharyngeal disease was made by Max Stoss in 1895. He reported a pharyngeal affection occurring in a woman aged thirty, who was ill for eight days. At the right tonsil and pillar there was a white, rounded exudate culture from which showed the Friedländer's bacillus in pure culture. Such cases are not numerous. Five cases of different authors are given in abstract.

The author's case was that of a young lady, nineteen years of age, who is subject to deposits of whitish membrane over her entire pharynx and soft palate. The patient has been able to follow her avocation with only slight interruption. The daily ingestion of raw onions or the local application of strong solutions of iodine or nitrate of silver will keep off the membrane for a period of two weeks.

The membrane appears with a sense of tightness in her pharynx. After it is fully formed, long strips can be removed without pain. Microscopical examination showed no Klebs-Löffler bacilli. A bacteriological examination showed the presence of Friedländer's bacillus in a number of specimens. The detailed report is incorporated in the paper. M. D. LEDERMAN.

**Carcinoma of the Pharynx with Marked Involvement of the Cervical Glands in a Boy Fourteen Years of Age—T. M. ELDER**  
—*Montreal Medical Journal*, December, 1900.

Carcinoma of the pharynx is, so far as surgical literature shows, a rare disease, and the age of this patient makes this case even more remarkable. The patient sought operation for enlarged cervical glands, supposedly tuberculous, and gave the following history. The trouble began twelve months before as a stiff neck, followed shortly by a lump near the angle of the right jaw, which became as large as a hen's egg. The boy had had enlarged tonsils, and sleeps with mouth open, snoring badly; is thin, and losing flesh rapidly; the glands are enlarged around the right sternomastoid, and to a less degree around the left; the glands are hard and nodular; firmly fixed, not painful and with no tendency to break down; speech is nasal; temperature is normal. Mother died of hepatic cancer. Examination showed some naso-pharyngeal growth and relaxation of the palate, but the fixation of the jaws prevented further examination.

Under anesthesia, a large mass of indurated gland tissue on the right side of the neck was removed—the glands shelling out easily. All the structures were involved and infiltrated by the neoplasm, which cut like cartilage. There were a few small cysts in the mass, but no hemorrhagic spots. The linear incision closed and healed rapidly. The neoplasm proved to be carcinoma of the scirrhus type. Subsequently a small piece of the growth in the pharynx was removed, and it was then found that most of the vault of the pharynx was involved, with no tendency to pedunculate. This proved to be typical scirrhus carcinoma. Nothing farther was attempted. The boy was four years old when his mother died.

GIBB WISHART.

**Tonsillitis—A. SANDNER—*Medical Summary*, December, 1900.**

A very clever classification of tonsillitis is given by the author. viz.:

- I. Toxic tonsillitis, without any macroscopic visible exudate.
  - (a) Rheumatic tonsillitis.
  - (b) Catarrhal or influenzal tonsillitis.
  - (c) Tonsillar inflammation in connection with infectious diseases, scarlatina, measles, etc.
- II. Infectious tonsillitis, with exudate.
  - (a) Follicular tonsillitis.
  - (b) Diphtheritic tonsillitis.
- III. Suppurative tonsillitis.
- IV. Irritative or chronic tonsillitis.

The author describes in detail the well-known symptoms of above classifications.

E. D. LEDERMAN.

## IV. LARYNX AND TRACHEA.

**Papilloma of the Vocal Cords—Report of Five Cases—W. S. BULLARD** (Columbus, Ga.)—*Virginia Medical Semi-Monthly*, October 26, 1900.

In the cases reported there was recurrence in but one patient, and in this patient but once. This absence of recurrence in all but one case in an affection in which recurrence is especially persistent would be remarkable were it not that the absence of any microscopic examination of the cases treated shows considerable doubt upon the diagnosis. W. SCHEPPEGRELL.

**Syphilis of the Larynx—RICHMOND MCKINNEY** (Memphis, Tenn.)—*Memphis Medical Monthly*, November, 1900.

A careful description of the clinical history of pathology and diagnosis of this subject, illustrated by three cuts, the first show-



ing the destructive ulcerative process going on in epiglottis and vocal cords and the infiltrated and tumefied arytenoids; the second,



the infiltration of epiglottis, just prior to beginning of disintegrating process, and the third, the cicatricial stenosis of the larynx following tertiary ulceration. W. SCHEPPEGRELL.

**Intra-Tracheal Injections in Tracheo-Bronchial and Pulmonary Affections—L. J. N. Fiset**—*Le Bulletin Medical de Quebec*, August, 1900.

The desirability of submitting any inflamed area in the respiratory tract to such protected, isolated and antiseptic conditions, as

are maintained in external wounds by the surgeon is without question. Inhalations fail, because they produce cough, and insufflations because they produce spasms in the larynx, but intratracheal injections are direct and efficacious. This therapeutic measure was described by Green before the Academy of Medicine of New York, as far back as 1838, and the treatment of 106 cases cited. It is possible to introduce a quantity of antiseptic fluid into the trachea and to direct the solution to the desired locality in the respiratory tract by securing an appropriate position on the part of the patient, and as a result to secure the isolation of surfaces turgescent and often excoriated, this protection against irritating contacts, and an anesthesia of the nerve endings, the constant irritation of which was producing the distressing cough and labored breathing. The solutions must be introduced by the aid of the laryngoscope and after cocainization of the larynx. The author has treated ninety-seven cases during the last four years, in this manner, the average number of injections was eight, and the average amount of each ʒss. Injections were made every second day—ʒi every three minutes until the required amount was administered.

The base of the solution was preferably albolene and next glycerine. The drug varied, embracing menthol, 18%; guaiacol, 2%; turpentine, 3%, or ichthyol, 10%. The results of the treatment were uniformly favorable, notably in the laryngo-tracheal cases, of which there were nineteen, and each application was followed by a distinct fall of temperature and lessening in the expectoration and cough.

GIBB WISHART.

**Safety Pin in the Larynx—Removal by Tracheotomy—WALTER**

A. WELLS (Washington, D. C.)—*Virginia Medical Semi-Monthly*, February 22, 1901.

An interesting case of a colored girl of thirteen who had inhaled a safety pin into her larynx. A laryngoscopic examination showed one end of the safety pin between the posterior half of the vocal cords projecting perhaps about one-eighth of an inch above them. It was removed by tracheotomy. The points of interest in the case are as follows:

*First*—the length of time (ten days) that the foreign body existed in the larynx with such slight and unimportant symptoms.

*Second*—The fact of the early and complete recovery of the voice, notwithstanding the pin had been so long in the larynx; that it was an open pin, and must have lacerated the membrane in the attempt to remove by intralaryngeal method, and notwithstanding the extent of the external operation (cricoid cartilage having been cut through.)

*Third*—The unusual construction of the safety pin, it not having the hooded form at the end, made for the fastening of the pin, as generally seen, which led to misconception of the position of the pin in the larynx.

W. SCHEPPEGRELL.

## VI. EAR.

**A Case of Suppurating Ears of More than Twenty Years Duration, with Impending Insanity, Cured by the Removal of Adenoids**—FAYETTE C. EWING (St. Louis)—*Interstate Med. Journ.*, October, 1900.

Large, phlegmatic German woman, æt. thirty-four, with complete nasal stoppage and suppurating ears from adenoids. Patient was so melancholic as to be incapacitated for her household duties.

Ears were cured in a week by adenectomy, and mental and physical health completely restored. A. A.

**Surgical Indications in Purulent Ear Disease**—A. D. McCONACHIE (Baltimore, Md.)—*Virginia Medical Semi-Monthly*, December 7, 1900.

After describing the clinical history of two cases of mastoiditis, the author summarizes the surgical indications in purulent ear disease as follows:

In acute cases—

(1) Removal of all obstructive conditions to respiration and proper ventilation of tympanic cavity, viz., adenoids, enlarged tonsils, deviated septum, spurs, enchondroses, polypi and hypertrophied turbinals.

(2) Enlargement opening in drum, if too small, to permit free drainage.

(3) Opening of the mastoid, if discharge continues after three or four weeks of persistent antiseptic cleanliness.

In chronic cases—

(A) Careful removal by the auditory canal of granulations, polypi or necrotic tympanic structures as thoroughly as you can.

(B) Discharge continuing, the mastoid operation must be done.

(1) For the removal of necrotic bone, either in tympanum or mastoid antrum and cells, as this is the only means of eradicating the germs of infection.

(2) When granulation and polypi recur after removal.

(3) In long-standing purulency, which cannot be arrested otherwise, even though the patient is not suffering, to prevent further complication.

(4) Tuberculosis and cholesteatomatous processes can only be removed by the mastoid.

(5) Relapsing cases should have the radical operation done to prevent complications.

(6) In abscess of the brain, cerebellum or sinus thrombosis, having their origin in purulent ear disease, the preliminary mastoid operation should be done.

(7) After a fair trial by these radical means and purulency continues, the mastoid operation is the surest and safest way of eradicating it.

(8) The mastoid operation, when done early, not only saves and improves hearing, but in many instances averts death through complications.

W. SCHEPPEGRELL.

## VII. MASTOID AND CEREBRAL COMPLICATIONS.

### **Middle-Ear Disease in its Relationship to the Cranial Cavity, with an Abstract of Five Cases, Explanatory of Illustrations**

—OTTO STEIN (Chicago) and CARL BARCK (St. Louis)—*St. Louis Med. Rev.*, March 9 and 16, 1901.

In this paper, which is of considerable length, the author covers his subject rather completely. The particular point of entrance of the infection into the cranium he considers one of the most important matters, as deciding the exact locality of the complication. First of all we are to look along the lines where the various parts of the temporal bone articulate with one another. The petro-squamous and squamo-mastoid are the important ones. Other important anatomical points are considered.

In involvement of the cavernous sinus we are to consider the vessels tributary to it: (1) The superior and inferior ophthalmic veins; (2) sphenoparietal sinus, arising from a meningeal vein; (3) central vein of the retina; (4) inferior anterior cerebral vein.

The central vein of the retina communicates with the superior ophthalmic vein, but according to Henle it often empties directly into the cavernous sinus. This Stein considers of importance; it explains the Graefe theory of "congestive papilla." But the theory is not always tenable, since in case of obstruction of the cavernous sinus, when the retinal vein empties into the superior ophthalmic vein, the blood may find an outlet through the facial vein, with which it communicates, and hence in such a case no marked congestion of the papilla would exist.

Clot in the cavernous sinus by damming back the blood in its tributary veins, causes edema of the eyelids, conjunctiva, forehead and nasal mucous membrane. This condition exists first only on one side, but soon spreads to the opposite, owing to an extension of the clot to its neighboring sinus by way of the transverse and circular sinuses. Of this Stein gives an illustrative case.

He gives also many data concerning the symptoms and location of abscesses of the brain.

The differential diagnosis, Stein points out, is of the utmost importance to the operator. While the symptoms of sinus thrombosis and abscess stand out in bold relief from one another, where we have a combination of conditions, as very often occurs in cases of sinus thrombosis and cerebellar abscess, we may find ourselves with a difficult problem to solve, though the route is the same. This abstract will afford an outline idea of this valuable paper. Five cases are appended by Dr. Carl Barck explanatory of illustrations.

EATON.



## IX. NEW INSTRUMENTS.

**Regional Minor Surgery; Tracheotomy**—GEO. G. VAN SCHAIK  
—*Internat. Journ. Surg.*, March, 1900.

Tracheotomy is an operation that every medical or surgical practitioner may be called upon to do at a moment's notice, and when he is totally unprepared. It has often been done with a pocket-knife as the sole instrument at hand. It is a common fault to attempt to work through too short an incision. The usual steps of the operation, as rapidly performed, are described.

When the operation is one of urgency, and no tracheal tube is at hand, some makeshift must be employed. We may simply pass a strong thread in each lip of the incision in the trachea itself, and



Hair-pin bent to serve as temporary tracheotomy tube.

tie the ends behind the neck. This will open up a chink large enough to give good results for a short time, but must soon be replaced by a tube, or else the necessary tension on the threads will cause them to cut through the cartilages. The author has employed a hair pin, bent into an acute V-shape, with the tapes tied to the end of each arm, and has found it an efficient device. A piece of a large woven catheter may be transfixed with a safety pin and softened in hot water; being bent in the requisite shape it is then introduced and tapes are fastened to each end of the pin.

EATON.

## BOOK REVIEWS.

**Laryngeal Phthisis.** By RICHARD LAKE, F.R.C.S., London. With thirty-six illustrations, twenty-one of which are colored. Philadelphia: P. Blakiston's Sons & Co., 1900. \$2.00.

Mr. Lake handles this—to the laryngologist—serious and interesting subject in his usual concise and original manner. We are unusually impressed with the paucity of our resources when we take up the large general text-books to seek out some new remedy, when baffled, as we so frequently are, in dealing with this formidable malady, and we welcome this monograph, which, while not redundant, offers all the resources of therapeutic art. The subject is one worthy of an extended treatise, and the author has considered every phase of tubercular laryngitis, and its complications. Many valuable formulæ, adapted to every emergency and idiosyncrasy are inserted, and the illustrations reproduce the various manifestations of the disease in a way satisfactory to the highest art.

F. C. E.

**A Treatise on the Diseases of the Ear, Including the Anatomy and Physiology of the Organ, Together with the Treatment of the Affections of the Nose and Pharynx Which Conduce to Aural Disease.** By T. M. HOVELL, F. R. C. S., Edin., M. R. C. S., Eng. Aural Surgeon to London Hospital; Consulting Surgeon to Hospital for Diseases of the Throat, etc., etc. Cloth, 808 pages. Price, \$5.50. Messrs. P. Blakiston's Sons & Co., 1012 Walnut street, Philadelphia, publishers.

The second edition of this work is perhaps the most extensive treatise on otology as yet contributed by our British confreres. The author discusses every detail and every subdivision of his subject very minutely.

For a large special treatise this volume is unusually practical; this is perhaps directly due to the mechanical genius of the author as the work abounds with illustrations of his specially devised instruments, apparatus and suggestions. As a work of reference and as a guide to the otologist this book should be much in demand.

M. A. G.

**The Asphyxial Factor in Anesthesia, and Other Essays.** By H. BEL-LAMY GARDNER, in R. C. S., England, L. R. C. P., London: Ballière, Tindall & Cox, 20 and 21 King William street, Strand, London. Price, 3 shillings, net.

We think this guide should be in the hands of every anesthetist. The author discusses minutely and clearly the technique, procedure and abstracts to satisfactory and successful anesthesia. The proper action in emergencies and those common cases that take anesthetics badly are considered in a way to impart much valuable information.

Part II of this monograph deals specifically with the administration of nitrous oxide and oxygen, ether and chloroform, and the transfer of a patient from bed to the operating table.

F. C. E.

**Manual of Diseases of the Ear, including Those of the Nose and Throat in Relation to the Ear.** By THOS. BARR, M.D., Lecturer on Diseases of the Ear, Glasgow University; Senior Surgeon to Glasgow Hospital for Diseases of the Ear, etc., etc.; Revised and Partially Rewritten; 236 illustrations, cloth, 429 pages. Price, \$3.50. James Maclehose & Sons, Glasgow, Publishers.

In the third edition of this manual the author clearly expresses the purpose of the revision in his preface: "The most important changes will be found in the chapters dealing with the consequences of purulent diseases of the middle ear and their operative treatment. There is no doubt that a clearer knowledge of the indications for surgical interference, as well as improved methods for operation and after-treatment, have arisen during the past few years. The operations of Schwartze, Stacke, Kuster, and others, on the cavities of the middle ear, have undergone various useful modifications; the most important perhaps being the grafting operation recently introduced by Mr. C. A. Ballance."

In this manual the author presents the subject of otology in a practical, clear and concise form. There are many excellent original illustrations. All unnecessary descriptive parts of the text and details of etiology, pathology, etc., has been eliminated and the volume is eminently practical.

M. A. G.

**Experimental Research Into the Surgery of the Respiratory System.**

An Essay awarded the Nicholas Senn Prize by the American Medical Association for 1898. By GEO. W. CRILE, A.M., M.D., Ph.D. Second Edition. Philadelphia: J. B. Lippincott & Co., 1900. \$2.50.

This scholarly monograph was prepared with a view to making better understood a number of phenomena attending operations and injuries of the thorax. The several parts are taken up separately and an individual research made. Though the author declares that the discussion of all the subjects is not intended to be exhaustive, very valuable technical experimental evidence backs up his claims. There are fourteen chapters, including not only the surgical procedure and technique of injuries, operations, foreign bodies, the mechanism of drowning, etc., but the physiologic phenomena of certain abnormal conditions are elaborated upon instructively.

F. C. E.

**The Medical News Pocket Formulary, New (3d) Edition.** Containing 1700 prescriptions, representing the latest and most approved methods of administering remedial agents. By E. QUIN THORNTON, M.D., Demonstrator of Therapeutics, Pharmacy and Materia Medica in the Jefferson Medical College, Philadelphia. New (3d) edition, carefully revised to date of issue. In one wallet-shaped volume, strongly bound in leather, with pocket and pencil. Price, \$1.50, net. Lea Brothers & Co., Philadelphia and New York, 1901.

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